Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 11.04.96 Test oil : ISO 4113

Combination No. : 9 400 085 394

Injection pump

Pump designation : PES6A95D32ORS2896 EP type number : 9 400 084 041

Governor

Governer design. : RSV375...1150A0C834R

Governer no. : 9 420 083 306

Cust. part No. : 82085600

Customer-spec. information
Customer : VALMET
Motor : 620 DS
Power KW : 110.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.70 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Beginning of delivery differende

and maximum rack

travel : 10.50
Tolerance mm : + 1.50
Difference ° CS : 4.20

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 11.05
Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 87.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : + 3.0

+	
Spreed	control lever
Tolerance	position degree : 37.0
cm3/1000 strokes : 3.5	tolerance degree : + 4.0
1	toter arite degree 1 · 4.0
Check tolerance	control lever
m.14000	
cm3/1000S. : 8.0	
1	tolerance degree : +- 4.0
Del. quantity	
cm3/1000 strokes : 16.0	RATED SPEED
Tolerance +	
cm3/1000 strokes : + 2.0 +	rack travel mm : 10.00
Check tolerance +	Rated speed rpm : 1185
cm3/1000s. : +- 4.5	Tolerance 1/min : + 5
Spreed	
Tolerance	rack travel mm : 4.00
cm3/1000 strokes : 5.5	Rated speed rpm : 1245
Check tolerance	Tolerance 1/min : +- 15
cm3/1000s. : 9.0	roterance minima.
(III) (UUU). 7.U	rack travel mm : 0.85
†	
(m) opportune of the portune	Tolerance mm : + 0.55
(B) SETTING OF INJECTION PUMP	Rated speed rpm : 1360
WITH GOVERNOR +	
+	
+	
	LOW IDLE
GUIDE SLEEVE POSITION +	
+	
Rated speed rpm : 800	control lever
	position degree : 66.0
Rack travel in mm: 0.65	tolerance degree : +- 4.0
Tolerance mm : + 0.35	toter arise degree . The tro
Total de likit	control lever
T	position degree : 16.0
governor spring +	
pre-tension +	tolerance degree : +- 4.0
click setting x : 3.00	
†	Setting point w/out bumper spring
	775
FULL LOAD DELIVERY AT FULL LOAD STOP +	Rated speed rpm : 375
+	rack travel mm : 4.20
Rated speed rpm : 1150 +	
Aneroid pressure +	Testing:
hPa : - +	
Del. quantity +	Rated speed rpm : 375
cm3/1000 strokes : 87.5 +	rack travel mm : 4.70
Tolerance +	Tolerance mm : + 0.10
cm3/1000 strokes : + 1.0 +	
Check tolerance +	rack travel mm : 2.00
cm3/1000s. : + 3.0	Rated speed rpm : 450
Spreed	Tolerance 1/min : +- 30
	rocal diffect 17 fifth 1 1 5 5
Tolerance	Pated speed nom . 100
Tolerance + cm3/1000 strokes : 3.5 +	Rated speed rpm : 100
Tolerance + cm3/1000 strokes : 3.5 + Check tolerance +	
Tolerance + cm3/1000 strokes : 3.5 +	Rated speed rpm : 100 CRT mm min. : > 19.00
Tolerance + cm3/1000 strokes : 3.5 + Check tolerance +	
Tolerance + cm3/1000 strokes : 3.5 + Check tolerance +	CRT mm min. : > 19.00
Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 8.0	
Tolerance + cm3/1000 strokes : 3.5 + Check tolerance +	CRT mm min. : > 19.00 TORQUE CONTROL ;
Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 8.0	CRT mm min. : > 19.00 TORQUE CONTROL ; Rated speed rpm : 1150
Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 8.0	CRT mm min. : > 19.00 TORQUE CONTROL ;

Tolerance mm	: +- 0.05
Rated speed rpm	: 700
rack travel mm Tolerance mm	: 11,45 : +- 0,05
Rated speed rpm rack travel mm	: 930 : 11.45
Tolerance mm	: +- 0.05
Rated speed rpm	: 1030
rack travel mm	: 11.05
Tolerance mm	: +- 0.05
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure	
hPa Rated speed rpm	: - : 700
Del. quantity	
cm3/1000 strokes Tolerance	: 86.0
cm3/1000 strokes	: + 2.0
Check tolerance	
cm3/1000s.	: +- 4.0
BREAKAWAY	
Bash Amarah da ma	10.00
Rack travel in mm Rated speed rpm	
Tolerance 1/min	: +- 5
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
rack travel mm Tolerance mm	: 20.00 : +- 1.00
Del. quantity	
cm3/1000 strokes Tolerance	: 196.0
cm3/1000 strokes	: + 8.0
Check tolerance	: +- 11.0
cm3/1000s.	; ***
LOW IDLE	
Del. quantity	
cm3/1000 strokes	: 16.0

Tolerance		
cm3/1000 strokes	: +-	2.0
Check tolerance		
cm3/1000s.	; +-	4.5
Spreed		
Tolerance		
cm3/1000 strokes	:	5.5
Check tolerance		
cm3/1000s.	:	9.0

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 16.04.96 Test oil : ISO 4113 Combination No. : 9 400 087 334 Injection pump Pump designation : PES6P110A720RS3149 EP type number : 9 400 087 045 Governor Governer design. : RQV350...1300PA772 Governer no. : 9 420 080 209 Cust. part No. Customer-spec. information Customer : FORD : 6,6L TC Motor Power KW : 121.4 TEST BENCH REQUIREMENTS : 4.1 Inlet line Test oil inlet temp. °C : + 2.0 Tolerance °C Overflow valve : 1 417 413 025 Inlet press. bar : 1.5 Test nozzle holde : 1 688 901 017 assembly Opening pressure 208.5 bar Tolerance bar : +- 1.5

: 1 680 750 008

6.0

x inside diameter x length mm	: 600		
REMARKS			
(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values			
BEGINNING OF DELIV	VERY		
Test pressure bar Tolerance bar	: 26.0 : +- 1.0		
Prestroke mm Tolerance mm Check	: 4.30 : +- 0.05		
tolerance mm	: +- 0.10		
Rack travel in mm Tolerance mm	: 10.50 : + 1.50		
Firing order	: 1-5- 3- 6- 2- : 4		
Phasing	: 0-60-120-180-240 : -300		
BASIC SETTING			
Rated speed rpm	: 1300		
Rack travel in mm Tolerance mm	: 13.15 : + 0.05		
Del. quantity cm3/1000 strokes	: 106.0		
Tolerance cm3/1000 strokes	: + 1.0		
Check tolerance cm3/1000s.	: + 4.0		
Spreed Tolerance cm3/1000 strokes	: 5.0		
Check tolerance cm3/1000s.	: 9.0		

x inside diameter: 2.0

Test lines

Outside diameter :

Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5	Del. quantity cm3/1000 strokes : 106.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER control lever
GUIDE SLEEVE TRAVEL	position degree : 65.0 tolerance degree : +- 4.0
Rated speed rpm : 1300 - guide sleeve	RATED SPEED
travel mm : 7.25 Tolerance mm : + 0.05	rack travel mm : 12.10 Rated speed rpm : 1365 Tolerance 1/min : +- 5
Rated speed rpm : 500 - guide sleeve - 3.50	rack travel mm : 4.00
travel mm : 2.50 Tolerance mm : + 0.20	Rated speed rpm : 1520 Tolerance 1/min : +- 15
Rated speed rpm : 1000 - guide sleeve	rack travel mm : 0.50 - Tolerance mm : + 0.50
travel mm : 5.15 Tolerance mm : + 0.15	Rated speed rpm : 1650
Rated speed rpm : 800 guide sleeve	LOW IDLE
travel mm : 4.15 Tolerance mm : + 0.15	
Rated speed rpm : 350 guide sleeve	- control lever - position degree : 13.0 - tolerance degree : + 4.0
travel mm : 0.95 Tolerance mm : + 0.35	- Testing:
GUIDE SLEEVE POSITION	- Rated speed rpm : 350 - rack travel mm : 7.30
Rated speed rpm : 1350	Tolerance mm : + 0.10
Rack travel in mm: 16.50	- rack travel mm : 2.00 - Rated speed rpm : 630
Tolerance mm : +- 1.30	- Tolerance 1/min : + 30
FULL LOAD DELIVERY AT FULL LOAD STOP	- Rated speed rpm : 100
Rated speed rpm : 1300	- CRT mm min. :> 9.00 - - Rated speed rpm : 405
Aneroid pressure hPa : 1000	- Rated speed rpm : 405 - -

		+ Tolerance
TORQUE CONTROL		+ cm3/1000 strokes : +- 2.0 + Check tolerance + cm3/1000s. : +- 4.0
Rated speed rpm rack travel mm Tolerance mm	: 13.15	Aneroid pressure
Rated speed rpm	: 800	Rated speed rpm : 500 Del. quantity
rack travel mm Tolerance mm	: 13.15 : +- 0.05	+ cm3/1000 strokes : 77.5 + Tolerance
		+ cm3/1000 strokes : +- 1.0 + Check tolerance
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000s. : +- 4.0
SETTING		BREAKAWAY
Rated speed rpm	: 500	Rack travel in mm: 12.10
Pressure hPa rack travel mm	: 1000 : 13.15	+ Rated speed rpm : 1365 + Tolerance 1/min : + 5
Tolerance mm	: +- 0.05	‡
MEASUREMENT		STARTING FUEL DELIVERY
Pressure hPa Rated speed rpm	500	+ Rated speed rpm : 100
rack travel mm	: 11.65	rack travel mm : 20.50
Tolerance mm	: +- 0.05	Tolerance mm : + 0.50 + Del. quantity
Rated speed rpm	: 500	+ cm3/1000 strokes : 110.0
Pressure hPa	: 500	+ Tolerance + cm3/1000 strokes : + 10.0
rack travel mm	: 12.10	+ Check tolerance
Tolerance mm	: +- 0.10	+ cm3/1000s. : +- 14.0
Pressure hPa	: 700	†
rack travel mm Tolerance mm	: 12.75 : + 0.05	
		LOW IDLE
START CUT-OUT		Del. quantity cm3/1000 strokes : 18.0
Rated speed rpm	: > 230	+ Tolerance
Rated speed rpm		cm3/1000 strokes : + 2.0
Check		+ Check tolerance + cm3/1000s. : + 4.5
speed 1/min	: > 210	Spreed
Check speed 1/min	: < 310	Tolerance : 3.5
eperatur (CHI) (+ Check tolerance
FUEL DELIVERY CHA	ARACTERISTICS	cm3/1000s. : 5.5
Aneroid pressure		1
nPa	: 1000	†
lated speed rpm Pel. quantity	: 800	1
cm3/1000 strokes	: 104.0	End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 16.04.96 Edition : ISO 4113 Test oil

Combination No. : 9 400 087 337

Injection pump

Pump designation : PES6P110A720RS3150 EP type number : 9 400 087 046

Governor

Governer design. : RQV350...1300PA776

: 9 420 080 212 Governer no.

Cust. part No. :

Customer-spec. information : FORD Customer : 7,8 L-TC Motor Power KW : 136.2

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 017 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

Test Lines : 1 680 750 015

Outside diameter : 6.0 x inside diameter: 3.0 x Length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +-1.0

Prestroke mm 4.30 Tolerance mm : +- 0.05 Check : +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Beginning of delivery differende

and maximum rack

travel 10.50 Tolerance mm : +- 1.50 Difference * CS :

BASIC SETTING

1300 Rated speed rpm :

Rack travel in mm: 12.05 : **←** 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 124.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.0

	+	
Spreed Tolerance cm3/1000 strokes	; 5.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	-	Rated speed rpm : 1300 Aneroid pressure
cm3/1000s.	; 9.0	hPa : 600 Del. quantity
Del. quantity cm3/1000 strokes Tolerance	: 23.0	cm3/1000 strokes : 124.0 Tolerance cm3/1000 strokes : +- 1.0
cm3/1000 strokes Check tolerance	: +- 2.0	Check tolerance cm3/1000S. : +- 3.0
cm3/1000s. Spreed	: +- 4.5	Spreed Tolerance
Tolerance cm3/1000 strokes Check tolerance	; 3.5	cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0
cm3/1000s.	: 5.5	CHO7 (0005 7.0
(B) SETTING OF IN	JECTION PUMP	CONTROL LEVER
WITH GOVERNOR	<u></u>	control lever position degree : 62.0
GUIDE SLEEVE TRAV	/EL †	tolerance degree : +- 4.0
Rated/speed rpm guide sleeve	: 1300	RATED SPEED
travel mm Tolerance mm	: 7.25 : + 0.05	rack travel mm : 11.00 Rated speed rpm : 1365 Tolerance 1/min : +- 5
Rated speed rpm guide sleeve	: 500	rack travel mm : 4.00
travel mm Tolerance mm	: 2.50 : + 0.20	Rated speed rpm : 1485 Tolerance 1/min : +- 15
Rated speed rpm guide sleeve	: 1000	rack travel mm : 0.50 Tolerance mm : +- 0.50
travel mm Tolerance mm	: 5.15 : + 0.15	Rated speed rpm : 1600
Rated speed rpm guide sleeve	: 800	LOW IDLE
travel mm Tolerance mm	: 4.15 : +- 0.15	
Rated speed rpm guide sleeve	: 350	<pre>control lever position degree : 15.0 tolerance degree : +- 4.0</pre>
travel mm Tolerance mm	: 0.95 : + 0.35	Testing:
CUTNE ELECUE DOST	TION	Rated speed rpm : 350 rack travel mm : 7.50
GUIDE SLEEVE POSI Rated speed rpm	+	Tolerance mm : +- 0.10
Rack travel in mm	: 16.50	rack travel mm : 2.00 Rated speed rpm : 660 Tolerance 1/min : +- 30
	+	

Rated speed rpm	: 100	1	Check		
Mateu speed (pili	. 100	I	speed 1/min	: > 210	
CRT mm min.	; > 9.50	+	Check		
Data damandan	(0)	+	speed 1/min	: < 310	
Rated speed rpm	; 405	1			
			FUEL DELIVERY CHA	ARACTERASTICS	
TORQUE CONTROL		+			
Dahad annad una	. 1700		Aneroid pressure hPa	: 600	
Rated speed rpm	12,05	Ī	Rated speed rpm	: 800	
rack travel mm Tolerance mm	+ 0.05	I	Del. quantity	. 000	
TOTAL CONTRACTOR			cm3/1000 strokes	: 103.0	
Rated speed rpm	: 800		Tolerance		
rack travel mm Tolerance mm	: 12.35		cm3/1000 strokes	: +- 2.0	
Tolerance mm	: +- 0.05		Check tolerance		
Ontrad annual con-	. 000	†	cm3/1000s.	: +- 4.0	
Rated speed rpm	: YUU	†	Anonord massure		
rack travel mm Tolerance mm	12.33		Aneroid pressure hPa	: 600	
ioterance mm	; 0.03		nra Rated speed rpm		
Rated speed rpm	1015		Del. quantity	. 700	
rack travel mm	: 12.15		cm3/1000 strokes	: 109.5	
rack travel mm Tolerance mm	; ÷ 0.05		Tolerance	. 107.13	
TOTAL CONTRACT			cm3/1000 strokes	: + 2.0	
			Check tolerance		
ANEROID/ALTITUDE		+	cm3/1000s.	: +- 4.0	
COMPENSATOR TEST		+			
			Aneroid pressure		
		†	hPa	500	
SETTING		†	Rated speed rpm	: 500	
etad anaad ana	. 500	†	Del. quantity cm3/1000 strokes	. 76.5	
Rated speed rpm Pressure hPa	: 600	•	Tolerance	. 10.5	
rack travel mm			cm3/1000 strokes	: +- 1.n	
Tolerance mm			Check tolerance	110	
		+	cm3/1000s.	: + 4.0	
MEASUREMENT		+			
Pressure hPa	: -	1	BREAKAWAY		
Rated speed rpm		I '	DUCAVAMAI		
rack travel mm	11.35	I			
Tolerance mm		1	Rack travel in mm	: 11.00	
			Rated speed rpm		
Rated speed rpm	: 500	+	Tolerance 1/min	: +- 5	
	***	+			
ressure hPa	: 335	+			
rack travel mm		† :	CTADTING FUEL AFI	THENY	
Tolerance mm	: +- 0.10	į :	STARTING FUEL DEL	TAEKI	
Pressure hPa	245	I	Rated speed rpm	: 100	
	: 245 : 11.65				
rack travel mm Tolerance mm	: ← 0.05	ļ -	rack travel mm Tolerance mm	: +- 0.50	_
		+ 1	Del. quantity		_
			cm3/1000 strokes	: 160.0	
TART CUT-OUT			Tolerance		
		1	cm3/1000 strokes	: +- 10.0	
Rated speed rpm			Check tolerance		
Rated speed rpm	: < 290	+ (cm3/1000s.	: +- 14.0	

LOW IDLE

Del. quantity
cm3/1000 strokes : 23.0
Tolerance
cm3/1000 strokes : +- 2.0
Check tolerance
cm3/1000s. : +- 4.5
Spreed
Tolerance
cm3/1000 strokes : 3.5
Check tolerance
cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.04.96 Test oil : ISO 4113

Combination No. : 9 400 087 354

Injection pump

Pump designation : PES6P110A720RS3158

EP type number : 9 400 087 049

Governor

Governer design. : RQV350...1300PA787

Governer no. : 9 420 080 218

Cust. part No.

Customer-spec. information
Customer : FORD
Motor : 6,6 L-TC
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 017

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.30
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Beginning of delivery differende

and maximum rack

travel : 10.50
Tolerance mm : + 1.50
Difference ° CS : 4.00

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.65
Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 113.5

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 3.0

	+	•
Spreed Tolerance cm3/1000 strokes	: 5.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance		- Rated speed rpm : 1300 - Aneroid pressure
cm3/1000s.	: 9.0	- hPa : - Del. quantity
Del. quantity cm3/1000 strokes	: 22.0	- cm3/1000 strokes : 113.5 - Tolerance
Tolerance cm3/1000 strokes	: +- 2.0	cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance cm3/1000s.	: +- 4.5	- cm3/1000s. : +- 3.0 - Spreed
Spreed Tolerance cm3/1000 strokes	: 3.5	Tolerance : 5.0
Check tolerance cm3/1000s.	: 5.5	Check tolerance cm3/1000s. : 9.0
(110) (0000)	· 3.3	
(B) SETTING OF IN	NJECTION PUMP	CONTROL LEVER
GUIDE SLEEVE TRAV	/5)	control lever position degree : 62.0 tolerance degree : +- 4.0
GOING STEENS INVI	7	toterance degree . F- 4.0
Rated speed rpm guide sleeve	: 1300	RATED SPEED
travel mm Tolerance mm	: 7.25 : + 0.05	rack travel mm : 10.60 Rated speed rpm : 1365 Tolerance 1/min : +- 5
Rated speed rpm guide sleeve	: 500	Tolerance 1/min : + 5 rack travel mm : 4.00
travel mm Tolerance mm	: 2.50 : ← 0.20	Rated speed rpm : 1485 Tolerance 1/min : +- 15
Rated speed rpm guide sleeve	: 1000	rack travel mm : 0.50 Tolerance mm : +- 0.50
travel mm Tolerance mm	: 5.15 : + 0.15	Rated speed rpm : 1600
Rated speed rpm	: 800	LOW IDLE
guide sleeve travel mm Tolerance mm	: 4.15 : + 0.15	FOM THE
Rated speed rpm	+	control lever position degree : 15.0
guide sleeve travel mm	: 0.95	tolerance degree : + 4.0
Tolerance mm	: + 0.35	Testing:
GUIDE SLEEVE POSI	TION	Rated speed rpm : 350 rack travel mm : 7.80
Rated speed rpm	: 1350	Tolerance mm : + 0.10
Rack travel in mm Tolerance mm	: 16.50	rack travel mm : 2.00 Rated speed rpm : 720 Tolerance 1/min : +- 30
. Jeer arioe libit	+	1.550 Giller Committee Com

Rated speed rpm	: 100	†
CRT mm min.	: > 9.50	BREAKAWAY
Rated speed rpm	: 405	Rack travel in m
TORQUE CONTROL		Tolerance 1/min
Rated speed rpm rack travel mm Tolerance mm	: 1300 : 11.65 : + 0.05	STARTING FUEL DE
Rated speed rpm rack travel mm Tolerance mm	: 800 : 12.15 : + 0.05	Rated speed rpm rack travel mm Tolerance mm Del. quantity
Rated speed rpm rack travel mm Tolerance mm		cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 11.85 : ← 0.05	cm3/1000s.
START CUT-OUT		LOW IDLE
Rated speed rpm Rated speed rpm	: > 230 : < 290	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes
Check speed 1/min Check	: > 210	Check tolerance cm3/1000s.
speed 1/min	: < 310	Tolerance cm3/1000 strokes
FUEL DELIVERY CHA	RACTERISTICS	Check tolerance cm3/1000s.
Aneroid pressure hPa	:	+
Rated speed rpm Del. quantity cm3/1000 strokes	: 800 : 97.5	
Tolerance cm3/1000 strokes	: + 2.0	End of test spec
Check tolerance cm3/1000s.	: +- 4.0	†
Aneroid pressure	: -	† +
Rated speed rpm Del. quantity	: 900	+
cm3/1000 strokes Tolerance	: 103.5	‡
cm3/1000 strokes Check tolerance cm3/1000S.	: +- 2.5 : +- 4.5	Ţ
		+

BREAKAWAY			
Rack travel in mm Rated speed rpm Tolerance 1/min	: +-	10.60 1365 5	
STARTING FUEL DEL	IVERY	· · · · · · · · · · · · · · · · · · ·	ref komunicaçãos que ribados difeitos
Rated speed rpm rack travel mm Tolerance mm	: +-	100 20.50 0.50	
Del. quantity cm3/1000 strokes	:	110.0	
Tolerance cm3/1000 strokes	: +-	10.0	
Check tolerance cm3/1000s.	: +-	14.0	
LOW IDLE			
Del. quantity cm3/1000 strokes Tolerance	:	22.0	
cm3/1000 strokes	: +-	2.0	
Check tolerance cm3/1000S. Spreed	: +-	4.5	
Folerance cm3/1000 strokes	:	3.5	
Check tolerance	•	5.5	
nger (www.e	•		
End of test specif	icati	on sheet	
01 000 000011	10001	J. 1 011000	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 16.04.96 Edition : ISO 4113 Test oil

Combination No. : 9 400 087 367

Injection pump

Pump designation : PES6P110A720RS3151 EP type number : 9 400 087 047

Governor

Governer design. : RQV350...1200PA777

: -1

Governer no. : 9 420 080 234

Cust. part No. :

Customer-spec. information Customer : FORD : 7,8 L TC : 165.6 Motor Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 017 assembly

Opening pressure

208.5 bar : + 1.5 Tolerance bar

Test Lines : 1 680 750 015

Outside diameter : 6.0 x inside diameter: 3.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 4.30 Tolerance mm : +- 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5- 3- 6- 2-

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 14.15 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 142.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : **←** 3.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. 9.0

Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 5.5	Del. quantity cm3/1000 strokes : 142.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER
GUIDE SLEEVE TRAVEL	position degree : 60.0 tolerance degree : +- 4.0
Rated speed rpm : 1300 guide sleeve	RATED SPEED
travel mm : 7.25 Tolerance mm : + 0.05	rack travel mm : 13.10 Rated speed rpm : 1265 Tolerance 1/min : + 5
Rated speed rpm : 500 guide sleeve travel mm : 2.50 Tolerance mm : \(\sim \) 0.20	rack travel mm : 4.00 Rated speed rpm : 1440 Tolerance 1/min : +- 15
Rated speed rpm : 1000 guide sleeve travel mm : 5.15 Tolerance mm : + 0.15	rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1600
Rated speed rpm : 800 guide sleeve travel mm : 4.15 Tolerance mm : + 0.15	LOW IDLE
Rated speed rpm : 350 guide sleeve travel mm : 0.95 Tolerance mm : + 0.35	control lever position degree : 15.0 tolerance degree : +- 4.0 Testing:
GUIDE SLEEVE POSITION	Rated speed rpm : 350 rack travel mm : 7.50
Rated speed rpm : 1350	Tolerance mm : + 0.70
Rack travel in mm: 16.50 Tolerance mm: + 1.30	rack travel mm : 2.00 Rated speed rpm : 650 Tolerance 1/min : +- 30
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
Rated speed rpm : 1200	CRT mm min. :> 9.00
Aneroid pressure + 800 +	Rated speed rpm : 405

	+ Tolerance
TORQUE CONTROL	+ cm3/1000 strokes : +- 1.0 + Check tolerance
Rated speed rpm : 1200 rack travel mm : 14.15 Tolerance mm : + 0.05	- cm3/1000s. : + 3.0 - Aneroid pressure - hPa : -
Rated speed rpm : 800	Rated speed rpm : 500 Del. quantity
rack travel mm : 14.15 Tolerance mm : +- 0.05	+ cm3/1000 strokes : 74.0 + Tolerance
	+ cm3/1000 strokes : + 1.0 + Check tolerance
ANEROID/ALTITUDE COMPENSATOR TEST	cm3/1000s. : +- 4.0
SETTING	BREAKAWAY
Rated speed rpm : 500 Pressure hPa : 800 rack travel mm : 14.15 Tolerance mm : + 0.05	Rack travel in mm: 13.10 Rated speed rpm: 1265 Tolerance 1/min: + 5
MEASUREMENT	STARTING FUEL DELIVERY
Pressure hPa : - Rated speed rpm : 500 rack travel mm : 12.15 Tolerance mm : + 0.05	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +- 0.50
Rated speed rpm : 500	+ Del. quantity + cm3/1000 strokes : 160.0 + Tolerance
Pressure hPa : 390 rack travel mm : 12.70 Tolerance mm : +- 0.10	cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0
Pressure hPa : 580 rack travel mm : 13.75 Tolerance mm : + 0.05	LOW IDLE
START CUT-OUT	Del: quantity
Rated speed rpm : > 230 Rated speed rpm : < 290	cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance
Check speed 1/min : > 210 Check	cm3/1000s. : + 4.5 Spreed Tolerance
speed 1/min : < 310	cm3/1000 strokes : 3.5 Check tolerance
FUEL DELIVERY CHARACTERISTICS	cm3/1000s. : 5.5
Aneroid pressure hPa : 800 Rated speed rpm : 800 Del. quantity	T + + + + + + + + + + + + + + + + + + +
cm3/1000 strokes : 120.0	T

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.04.96 : ISO 4113 Test oil

Combination No. : 9 400 087 449EB

Injection pump

Pump designation : PES6P120A320/3RS3264

EP type number : 9 400 087 075

Governor

Geverner design. : RQV350...1100PA973

Governer no. : 9 420 080 293

Cust. part No. : 3355296-VERSA041

Customer-spec. information : CUMMINS Customer

Motor : 6 CTA - 8.3 L

Power KW : 194.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar Tolerance bar

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

r: 26.0 : + 1.0 Test pressure bar : Tolerance bar

Prestroke mm 3.50 : + 0.05Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm: 11.05 Tolerance mm : ← 0.05

Del. quantity

cm3/1000 strokes : 190.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes :

5.0

Check tolerance cm3/1000s.

9.0

	+ Spreed
Del. quantity	Tolerance
cm3/1000 strokes : 8.0	cm3/1000 strokes : 5.0
Tolerance	- Check tolerance
cm3/1000 strokes : +- 3.0	+ cm3/1000s. : 9.0
Check tolerance	+
cm3/1000s. : +- 5.0	1
Spreed	
Tolerance	CONTROL LEVER
cm3/1000 strokes : 5.0	
Check tolerance	- control lever
cm3/1000s. : 8.0	position degree : 55.0
	+ tolerance degree : +- 4.0
	+
(B) SETTING OF INJECTION PUMP	+ control lever
WITH GOVERNOR	position degree : 110.0
	tolerance degree : + 4.0
GUIDE SLEEVE TRAVEL	RATED SPEED
	4
Rated speed rpm : 1150	rack travel mm : 10.00
guide sleeve	+ Rated speed rpm : 1765
travel mm : 7.05	+ Tolerance 1/min : +- 5
Tolerance mm : + 0.05	1
	+ rack travel mm : 4.00
Rated speed rpm : 1400	Rated speed rpm : 1325
guide sleeve	+ Tolerance 1/min : +- 15
travel mm : 9.00	+
Tolerance mm : ← 0.20	+ rack travel mm : 0.50
	+ Tolerance mm : +- 0.50
Rated speed rpm : 350	+ Rated speed rpm : 1500
guide sleeve	+
travel mm : 1.60	+
Tolerance mm : + 0.20	
	+ LOW IDLE
Rated speed rpm : 650	+ · · · · · · · · · · · · · · · · · · ·
guide sleeve	+
travel nm : 4.50	+ control tever
Tolerance mm : + 0.20	+ position degree : 70.0
	tolerance degree : +- 4.0
	+
GUIDE SLEEVE POSITION	+ control lever
	+ position degree : 15.0
Rated speed rpm : 1325	tolerance degree : + 4.0
	†
Rack travel in mm: 16.50	† Testing:
Tolerance mm : + 1.30	†
	+ Rated speed rpm : 350
	rack travel mm : 6.00 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	† Tolerance mm : +- 0.10
2400	100
Rated speed rpm : 1100	+ Rated speed rpm : 100
Aneroid pressure	1 2007
hPa : 1200	† CRT mm min. :> 8.00
Del. quantity	T Rotal mand 500
cm3/1000 strokes : 190.0	+ Rated speed rpm : 500
Tolerance	†
cm3/1000 strokes : + 1.0	TOROUG MOUTON
Check tolerance	+ TORQUE CONTROL
cm3/1000s. : + 4.0	+

Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST	: 11.05 : +- 0.05 : 700 : 11.05 : +- 0.05	Spreed Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000s.: 12.0 Aneroid pressure hPa: - Rated speed rpm: 500 Del. quantity cm3/1000 strokes: 117.5 Tolerance cm3/1000 strokes: +- 1.5
SETTING		Check tolerance cm3/1000s. : + 3.5
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 11.05 : + 0.05	+ cm3/1000s. : + 3.5 - BREAKAWAY
MEASUREMENT		Rack travel in mm: 10.00
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	500 9.00 + 0.10	Rated speed rpm : 1165 Tolerance 1/min : + 5
Rated speed rpm		STARTING FUEL DELIVERY
Pressure hPa rack travel mm Tolerance mm	: 700 : 10.75 : + 0.15	Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00 Del. quantity cm3/1000 strokes : 275.0
Pressure hPa rack travel mm Tolerance mm	: 9.55	Tolerance cm3/1000 strokes : + 15.0 Check tolerance cm3/1000s. : + 19.0
START CUT-OUT		
Rated speed rpm Rated speed rpm	: > 100 : < 290	LOW IDLE
Check speed 1/min Check speed 1/min	: > 80 : < 310	Del. quantity cm3/1000 strokes : 8.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance
FUEL DELIVERY CH	ARACTERISTICS	
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1200 : 700	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 8.0
cm3/1000 strokes Tolerance cm3/1000 strokes		‡
Check tolerance cm3/1000s.	: +- 5.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.04.96 : ISO 4113 Test oil

Combination No. : 9 400 087 456

Injection pump

Pump designation : PE6P120A720RS7126 EP type number : 0 412 626 815

Governor

Governer design. : RQV200...1050PA725

Governer no. : 0 421 813 814

Cust. part No. : 1673688

Customer-spec. information Customer : SCANIA : DS11 Motor

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0

600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05 : +- 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

700 Rated speed rpm :

Rack travel in mm: 14.15

Tolerance mm : \leftarrow 0.05

Del. quantity

cm3/1000 strokes : 231.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

: +- 4.0 cm3/1000s.

Spreed

Tolerance cm3/1000 strokes : 6.0	Tolerance mm : +- 2.50
Check tolerance cm3/1000s. 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 225	Rated speed rpm : 700 Aneroid pressure hPa : 900
Rack travel in mm: 4.60 Tolerance mm: +- 0.30	Del. quantity cm3/1000 strokes : 231.0
Del. quantity cm3/1000 strokes : 17.0 Tolerance	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000 strokes : +- 2.0 Check tolerance	cm3/1000s. : +- 4.0 Spreed
cm3/1000s. : +- 5.0 +-	Tolerance cm3/1000 strokes : 6.0
Tolerance + cm3/1000 strokes : 3.0 + Check tolerance + cm3/1000 strokes : 5.0 + cm3/1000 strokes	Check tolerance cm3/1000s. : 9.0
cm3/1000s. : 6.0	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER control lever
	position degree : 62.0 tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	control lever
Rated speed rpm : 225 guide sleeve travel mm : 1.40	position degree : 117.0 tolerance degree : +- 4.0
Tolerance mm : + 0.20	RATED SPEED
Rated speed rpm : 1095 guide sleeve travel mm : 8.30 Tolerance mm : + 0.10	rack travel mm : 13.10 Rated speed rpm : 1095 Tolerance 1/min : +- 5
Rated speed rpm : 350 guide sleeve	rack travel mm : 4.00 Rated speed rpm : 1215 Tolerance 1/min : +- 15
travel mm : 2.60 Tolerance mm : + 0.30	rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm : 650 guide sleeve	Rated speed rpm : 1320
Tolerance mm : 4.30 + 0.30	LOW IDLE
Rated speed rpm : 1215 guide sleeve	
travel mm : 9.90 Tolerance mm : + 0.20	control lever position degree : 64.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION	control lever position degree : 10.0
Rated speed rpm : 1200	tolerance degree : + 4.0
Rack travel in mm: 10.50	Testing:

		1 Pated speed speed 4050
Rated speed rpm	: 225	+ Rated speed rpm : 1050 + Del. quantity
rack travel mm	: 4.60	+ cm3/1000 strokes : 222.5
Tolerance mm	: +- 0.10	† Tolerance
rack travel mm	: 2.00	+ cm3/1000 strokes : +- 4.0 - Check tolerance
Rated speed rpm	: 390	+ cm3/1000s. : +- 6.0
Tolerance 1/min	: +- 30	+
	400	Aneroid pressure
Rated speed rpm	: 100	+ hPa : - Rated speed rpm : 500
CRT mm min.	: > 6.10	Del. quantity
		+ cm3/1000 strokes : 150.5
		Tolerance
TORQUE CONTROL		+ cm3/1000 strokes : +- 2.0 + Check tolerance
Rated speed rpm	; 700	+ cm3/1000s. : + 4.0
rack travel mm		
Tolerance mm		
maked or	. 4050	BREAKAWAY
Rated speed rpm	: 7U5U • 14.15	<u>†</u>
rack travel mm Tolerance mm	: +- 0.05	Rack travel in mm: 13.10
1919 41199 11911	0.03	+ Rated speed rpm : 1095
		+ Tolerance 1/min : + 5
ANEROID/ALTITUDE		†
COMPENSATOR TEST		I
		+ STARTING FUEL DELIVERY
SETTING		+
Datasi annasi wan	. 500	+ Rated speed rpm : 100
Rated speed rpm Pressure hPa		+ rack travel mm : 20.50 + Tolerance mm : + 0.50
rack travel mm	: 14.15	+ Del. quantity
Tolerance mm	: +- 0.05	+ cm3/1000 strokes : 300.0
ASP A OLI IN COLUMN 170		† Tolerance
MEASUREMENT		+ cm3/1000 strokes : + 25.0 + Check tolerance
Pressure hPa		+ cm3/1000s. : + 29.0
Rated speed rpm	: 500	+
rack travel mm	: 10.70	+
Tolerance mm	: + 0.20	İ
Rated speed rpm	: 500	LOW IDLE
		+
Pressure hPa	: 250	Rated speed rpm : 225
rack travel mm Tolerance mm	: 11.20 : + 0.10	+ rack travel mm : 4.60 + Tolerance mm : + 0.30
ioteralite fiali	. +- 0.10	+ Del. quantity
Pressure hPa	: 510	cm3/1000 strokes : 17.0
rack travel mm	: 13.05	Tolerance
Tolerance mm	: +- 0.05	+ cm3/1000 strokes : + 2.0
		+ Check tolerance + cm3/1000s. : +- 5.0
		Spreed
		+ Tolerance
FUEL DELIVERY CHA	RACTERISTICS	cm3/1000 strokes : 3.0
Anonaid management		+ Check tolerance + cm3/1000s. : 6.0
Aneroid pressure hPa	: 900	+ cm3/1000s. : 6.0
) N C	• /00	•

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.04.96 : ISO 4113 Test oil

Combination No. : 9 400 087 458

Injection pump

Pump designation : PE6P12OA32ORS3186 EP type number : 0 411 826 756

Governor

Governer design. : RQV250...1025PA657

: -29

: 9 420 080 312 Governer no.

Cust. part No. : 8124324

Customer-spec. information

: VOLVO-TRUCK Customer

: TD102FS Motor Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 2 417 413 046

Inlet press. bar : 2.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter: x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 2.65 : +- C.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 12.15 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 211.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

: +cm3/1000s. 4.0

Spreed

Tolerance

cm3/1000 strokes :

5.0

Check tolerance

: 9.0 cm3/1000s.

1	- Del. quantity
Del. quantity	- cm3/1000 strokes : 211.0
cm3/1000 strokes: 18.5	- Tolerance - cm3/1000 strokes : +- 1.0
cm3/1000 strokes : +- 2.5	- Check tolerance
Check tolerance	- cm3/1000s. : + 4.0
cm3/1000s. : +- 5.0 +	- Spreed
Spreed Tolerance	- Tolerance - cm3/1000 strokes : 5.0
cm3/1000 strokes : 5.0	Check tolerance
Check tolerance cm3/1000s. : 7.0	- cm3/1000s. : 9.0
	•
(F) (FFTTM) OF THE FORM	CONTROL I TUES
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	- CONTROL LEVER
WEIT GOVERNOR	control lever
	position degree : 65.0
GUIDE SLEEVE TRAVEL	tolerance degree : +- 4.0
Rated speed rpm : 250	control Lever
guide steeve	position degree : 120.0
travel mm : 1.20 + 0.10	tolerance degree : +- 4.0
+	RATED SPEED
Rated speed rpm : 900	
guide sleeve + travel mm : 6.50	rack travel mm : 11.10 Rated speed rpm : 1090
Tolerance mm : + 0.20	Tolerance 1/min : + 5
T-00	
Rated speed rpm : 500 + guide sleeve +	rack travel mm : 4.00 Rated speed rpm : 1160
travel mm : 4.50	Tolerance 1/min : + 15
Tolerance mm : + 0.40	
Rated speed rpm : 700	rack travel mm : 0.50 Tolerance mm : +- 0.50
guide sleeve +	Rated speed rpm : 1300
travel mm : 6.50	
Tolerance mm : + 0.20	
Rated speed rpm : 1025	LOW IDLE
guide sleeve + travel mm : 7.55	
Tolerance mm : + 0.25	control lever
+	position degree : 63.0
GUIDE SLEEVE POSITION	tolerance degree : +- 4.0
dold deter rostrior	control lever
Rated speed rpm : 1080	position degree : 8.0
Rack travel in mm: 16.50	tolerance degree : +- 4.0
Tolerance mm : + 1.30 +	Testing:
+	Dated aread non . 250
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 250 rack travel mm : 4.00
+	Tolerance mm : + 0.10
Rated speed rpm : 700	Pated speed ppp 1 400
Aneroid pressure + 1000 +	Rated speed rpm : 100
+	CRT mm min. : > 5.40
·	

Rated speed rpm	: 300
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 700 : 12.15 : +- 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1000 : 12.15 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm	: 500
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 425 : 2.85 : + 0.15
Pressure hPa rack travel mm Tolerance mm	: 75 : 0.25 : + 0.05
FUEL DELIVERY CHAI	RACTERISTICS
Aneroid pressure 1Pa Rated speed rpm	: 700
Del. quantity	
cm3/1000 strokes Tolerance	: 147.0
cm3/1000 strokes Check tolerance	: + 1.0
cm3/1000s.	: + 4.0
BREAKAWAY	

Rated speed rpm	:		100
rack travel mm Tolerance mm	:	+-	20.50 0.50
Del. quantity cm3/1000 strokes Tolerance	:		270.0
cm3/1000 strokes Check tolerance	;	+-	20.0
cm3/1000s.	:	+-	24.0
LOW IDLE			
Del. quantity			
cm3/1000 strokes Folerance	:		18.5
cm3/1000 strokes Check tolerance	:	+-	2.5
cm3/1000s. Spreed Folerance	:	+-	5.0
cm3/1000 strokes Check tolerance	:		5.0
cm3/1000s.	:		7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.04.96 : ISO 4113 Test oil

Combination No. : 9 400 087 460AA

Injection pump

Pump designation : PES6P120A720LS7114

: -13

EP type number : 0 412 726 867

Governor

Governer design. : RQ300/1050PA911-3

Governer no. : 9 420 080 314

Cust. part No. :

Customer-spec. information Customer : MBB : 0M447 LA Motor Power KW : 260.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 110 Tolerance L/h : +- 10.0

Test mozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : + : + 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

: 6-2-4-1-5-Firing order

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 12.40

Tolerance mm : + 0.10

Del. quantity cm3/1000 strokes : 195.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

: +- 4.0 cm3/1000s.

Spreed

Tolerance cm3/1000 strokes : 5.0	Tolerance mm : +- 0.80
Check tolerance cm3/1000s. 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 300	Rated speed rpm : 600 Aneroid pressure hPa : 1050
Rack travel in mm: 6.00 Tolerance mm: + 0.20	Del. quantity cm3/1000 strokes : 195.5
Del. quantity cm3/1000 strokes : 13.5 Tolerance	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000 strokes : + 3.0 + Check tolerance	cm3/1000S. : + 4.0 Spreed
cm3/1000S. : + 6.0 + 500 + 6.0 Tolerance	Tolerance cm3/1000 strokes : 5.0 Check tolerance
cm3/1000 strokes : 8.0 + Check tolerance +	cm3/1000s. : 9.0
cm3/1000s. : 12.0	CONTROL LEVER
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 40.0
GUIDE SLEEVE TRAVEL	tolerance degree : + 4.0 control lever
Rated speed rpm : 300 guide sleeve travel mm : 2.95	position degree : 101.0 tolerance degree : + 4.0
Tolerance mm : + 0.15	RATED SPEED
Rated speed rpm : 1100 guide sleeve travel mm : 6.70	rack travel mm : 11.30 Rated speed rpm : 1103 Tolerance 1/min : +- 8
Tolerance mm : + 0.20 + Rated speed rpm : 600 +	rack travel mm : 4.00 Rated speed rpm : 1165
guide sleeve travel mm : 6.00	Tolerance 1/min : + 15
Tolerance mm : + 0.10 Rated speed rpm : 1000	rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1300
guide steeve travel mm : 6.40	
Tolerance mm : + 0.10 Rated speed rpm : 1175	LOW IDLE
guide sleeve travel mm : 9.75 Tolerance mm : + 0.25	<pre>control lever position degree : 74.0 tolerance degree : + 4.0</pre>
GUIDE SLEEVE POSITION	control lever position degree : 11.0
Rated speed rpm : 600	tolerance degree : +- 4.0
Rack travel in mm : 20.00	Testing:

	_	+ Rated speed rpm : 1050
Rated speed rpm rack travel mm		+ Del. quantity + cm3/1000 strokes : 195.0
Tolerance mm	: 6.00 : + 0.10	Tolerance
		+ cm3/1000 strokes : +- 2.0
rack travel mm		theck tolerance
Rated speed rpm Tolerance 1/min		+ cm3/1000s. : +- 5.0 + Spreed
roterance minn	20	Tolerance
Rated speed rpm	: 100	+ cm3/1000 strokes : 8.0
ADT an air	: > 9.00	- Check tolerance
CRT mm min.	: > 9.00	cm3/1000s. : 12.0
		Aneroid pressure
TORQUE CONTROL		+ hPa : 1200
Datasi annual sum	. 400	Rated speed rpm : 750
Rated speed rpm rack travel mm	: 600 : 12,40	+ Del. quantity + cm3/1000 strokes : 198.5
Tolerance mm	: +- 0.10	+ Tolerance
		+ cm3/1000 strokes : +- 2.0
Rated speed rpm		Check tolerance
rack travel mm		+ cm3/1000s. : + 5.0 + Spreed
Tolerance mm	: + 0.10	+ Spreed + Tolerance
Rated speed rpm	: 750	- cm3/1000 strokes : 8.0
rack travel mm		- Check tolerance
Tolerance mm	: ← 0.10	+ cm3/1000s. : 12.0
		Aneroid pressure
ANEROID/ALTITUDE		hPa : -
COMPENSATOR TEST		Rated speed rpm : 500
		+ Del. quantity
		+ cm3/1000 strokes : 126.0
MEACHDEMENT		+ Tolerance + cm3/1000 strokes : +- 1.0
MEASUREMENT		+ Check tolerance
Pressure hPa	: 300	+ cm3/1000s. : +- 4.0
rack travel mm	: -1.80	Spreed
Tolerance mm	: + 0.10	+ Tolerance
Dronauma hDa	: 400	cm3/1000 strokes : 5.0 Check tolerance
Pressure hPa rack travel mm	: -0.90	+ cm3/1000s. : 9.0
Tolerance mm	: + 0.10	+
		S.S. PALVALIAN.
START CUT-OUT		
Rated speed rpm	• > 100	Rack travel in mm : 11.30
Rated speed rpm		+ Rated speed rpm : 1103
		+ Tolerance 1/min : + 8
Check		†
speed 1/min Check	: > 80	<u> </u>
speed 1/min	: < 240	STARTING FUEL DELIVERY
		Rated speed rpm : 100
FUEL DELIVERY CHA	RACTERISTICS	+ Del. quantity
THE PERSON OF THE	H. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	+ cm3/1000 strokes : 230.0
Aneroid pressure		+ Tolerance
hPa	: 1200	+ cm3/1000 strokes : +- 10.0

Check tolerance		
cm3/1000s.	; +	14.0

LOW IDLE

Rated speed rpm	:		300
rack travel mm	:		6.00
Tolerance mm	:	+-	0.20
Del. quantity			
cm3/1000 strokes	:		13.5
Tolerance			
cm3/1000 strokes	:	+-	3.0
Check tolerance			
cm3/1000s.	•	+	6.0
Spreed			
Tolerance			
cm3/1000 strokes	•		8.0
Check tolerance			
cm3/1000s.	•		12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.04.96 Test oil : ISO 4113

Combination No. : 9 400 087 463

Injection pump

Pump designation : PES6P120A320/3RS3264

EP type number : 9 400 087 075

Governor

Governer design. : RQV350...1100PA973

: -1

Governer no. : 9 420 080 317

Cust. part No. :

Customer-spec. information

Customer : CUMMINS

Motor : 6 CTAA - 8.3 L

Power KW : 186.4

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. $^{\circ}$ C : 40 Tolerance $^{\circ}$ C : \leftarrow 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.50
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.55
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 174.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes :

5.0

Check tolerance

cm3/1000s.

9.0

1	Spreed
Del. quantity	Tolerance
cm3/1000 strokes : 9.5	cm3/1000 strokes : 5.0
Tolerance	Check tolerance
cm3/1000 strokes : +- 3.0	cm3/1000s. : 9.0
Check tolerance	
cm3/1000s. : + 6.0	
Spreed	
Tolerance	CONTROL LEVER
cm3/1000 strokes : 8.0	
Check tolerance	control lever
cm3/1000s. : 12.0	position degree : 55.0
	tolerance degree : + 4.0
1	
(B) SETTING OF INJECTION PUMP	control lever
WITH GOVERNOR +	position degree : 109.0
+	tolerance degree : + 4.0
+	•
GUIDE SLEEVE TRAVEL	RATED SPEED
Rated speed rpm : 1150	rack travel mm : 9.50
guide sleeve	Rated speed rpm : 1165
travel mm : 7.05	Tolerance 1/min : + 5
Tolerance mm : + 0.05	Total allow Thirties To a second allowed the second
	rack travel mm : 4.00
Rated speed rpm : 1400	Rated speed rpm : 1320
guide sleeve	Tolerance 1/min : + 15
travel mm : 9.00	
Tolerance mm : + 0.20	rack travel mm : 0.50
1	Tolerance mm : +- 0.50
Rated speed rpm : 350	Rated speed rpm : 1500
guide sleeve +	·
travel mm : 1.60 +	
Tolerance mm : + 0.20	
+	LOW IDLE
Rated speed rpm : 650	
guide sleeve +	
travel mm : 4.50 +	control lever
Tolerance mm : +- 0.20 +	position degree : 70.0
+	tolerance degree : +- 4.0
CUANT OF EDUCATION	control lover
GUIDE SLEEVE POSITION	control lever
Potest arred pre : 1725	position degree : 15.0
Rated speed rpm : 1325	tolerance degree : + 4.0
Rack travel in mm: 16.50	Testing:
Tolerance mm : + 1.30	resettige
1000141100 111111	Rated speed rpm : 350
	rack travel mm : 6.00
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
- Amm malls ammutally the Lamb malls and	received this see well
Rated speed rpm : 1100	Rated speed rpm : 100
Aneroid pressure	•
hPa : 1000 +	CRT mm min. :> 8.00
Del. quantity	
cm3/1000 strokes : 174.0	Rated speed rpm : 500
Tolerance +	
cm3/1000 strokes : + 1.0 +	
Check tolerance +	TORQUE CONTROL
cm3/1000s. : + 4.0 +	

B06

Rated speed rpm	: 1100	+ Tolerance
rack travel mm	: 10.55	+ cm3/1000 strokes : 6.0
Tolerance mm	: +- 0.05	+ Check tolerance
The state of the s		- cm3/1000s. : 12.0
Rated speed rpm	. 700	1210
rack travel mm	10.55	Aneroid pressure
Tolerance mm		hPa : -
rocerance num	0.05	Rated speed rpm : 500
		Del. quantity
ANEROID/ALTITUDE		cm3/1000 strokes : 121.0
COMPENSATOR TEST		Tolerance
COMPENSATOR TEST		cm3/1000 strokes : +- 1.0
		Check tolerance
SETTING		+ cm3/1000s. : +- 4.0
SELLTIAG		T (1107 10003 +- 4.0
Dated speed spe	: 500	T
Rated speed rpm Pressure hPa	1000	BREAKAWAY
rack travel mm	: 10.55	DREMNAWAT
		Ť
Tolerance mm	: +- 0.05	Park Annual du ma . 0.50
		Rack travel in mm: 9.50
MEASUREMENT		Rated speed rpm : 1165
		+ Tolerance 1/min : + 5
Pressure hPa	. ~	†
Rated speed rpm	: 500	†
	F20	
Rated speed rpm	: 500	+ STARTING FUEL DELIVERY
		+
Pressure hPa	: 740	+ Rated speed rpm : 100
rack travel mm	: 1.10	† rack travel mm : 20.00
Tolerance mm	: +- 0.10	+ Tolerance mm : +- 1.00
		+ Del. quantity
Pressure hPa	: 550	+ cm3/1000 strokes : 275.0
rack travel mm	: 0.35	+ Tolerance
Tolerance mm	: +- 0.05	+ cm3/1000 strokes : +- 15.0
		+ Check tolerance
		+ cm3/1000s. : +- 19.0
START CUT-OUT		1
		1
Rated speed rpm	: > 100	1
Rated speed rpm	: < 290	
		+ LOW IDLE
Check		
speed 1/min	: > 80	Del. quantity
Check		+ cm3/1000 strokes : 9.5
speed 1/min	: < 310	+ Tolerance
Cipeca iriliani		+ cm3/1000 strokes : + 3.0
		Check tolerance
FUEL DELIVERY CHA	PACTERISTICS	+ cm3/1000s. : + 6.0
TOLL DELIVERY OFF	WALTITOLIO	Spreed
Aneroid pressure		Tolerance
hPa	: 1000	- cm3/1000 strokes : 8.0
Rated speed rpm	: 700	+ Check tolerance
	. / 00	3 / 4 0 0 0
Del. quantity	: 169.0	† cm3/1000S. : 12.0
cm3/1000 strokes	: 169.0	T
Tolerance		T
cm3/1000 strokes	: +- 2.0	Ť
Check tolerance		†
cm3/1000s.	: +- 5.5	†
Spreed		†
		+

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 15,04,96 Edition : ISO 4113 Test oil

Combination No. : 9 400 087 473

Injection pump

Pump designation : PE6P120A320RS3178-1

EP type number : 0 411 826 764

Governor

Governer design. : RQV250...950PA921

: -13

: 0 421 813 796 Governer no.

Cust. part No. : 478162P04

Customer-spec. information

Customer : VOLVO-TRUCK

: TD 122 FK, FR Motor

: 287.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar Tolerance bar : **←** 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm 3.65 : +- 0.05 Tolerance mm

Check

: + - 0.10tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 14.25 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes :

260.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

: +- 4.0

Spreed

Tolerance

cm3/1000 strokes :

5.0

Check tolerance cm3/1000s.

9.0

B09

	+ Del. quantity	
Del. quantity	cm3/1000 strokes	: 260.0
cm3/1000 strokes : 20.0	+ Tolerance	. 200.0
Tolerance	+ cm3/1000 strokes	: +- 1.0
$cm3/1000$ strokes : \leftarrow 2.5	+ Check tolerance	
Check tolerance	+ cm3/1000s.	: +- 4.0
cm3/1000s. : +- 5.5	+ Spreed	
Spreed	+ Tolerance	5.0
Tolerance cm3/1000 strokes : 5.0	+ cm3/1000 strokes + Check tolerance	: 5.0
Check tolerance	+ cm3/1000s.	: 9.0
cm3/1000s. : 7.0	T (115) (10003:	. 7.0
	1	
(B) SETTING OF INJECTION PUMP	+ CONTROL LEVER	
WITH GOVERNOR	+	
	+ control lever	45.0
CUINE OF FEUE TRAVEL	position degree	
GUIDE SLEEVE TRAVEL	tolerance degree	: +- 4.0
Rated speed rpm : 250	I control lever	
guide sleeve	+ position degree	: 121.0
travel mm : 1.20	+ tolerance degree	
Tolerance mm : + 0.20	+	
	+ RATED SPEED	
Rated speed rpm : 985	†	47.00
guide sleeve	+ rack travel mm	: 13.20
travel mm : 8.30 Tolerance mm : + 0.10	+ Rated speed rpm + Tolerance 1/min	: 995 : +- 5
rocerance min : + U. IU	I toterance trium	. +- 3
Rated speed rpm : 450	+ rack travel mm	: 4.00
guide sleeve	Rated speed rpm	
travel mm : 3.90	+ Tolerance 1/min	
Tolerance mm : + 0.30	+	
	+ rack travel mm	: 0.50
Rated speed rpm : 700	+ Tolerance mm	: + 0.50
guide sleeve	+ Rated speed rpm	: 1200
travel mm : 6.50 Tolerance mm : +- 0.10	Ť	
Toterance mm : +- 0.10	<u> </u>	
Rated speed rpm : 1060	LOW IDLE	
guide sleeve	+	
travel mm : 9.80	+	
Tolerance mm : +- 0.20	+ control lever	
	position degree	: 65.0
CUINE SUFFUE DOCUTION	tolerance degree	: +- 4.0
GUIDE SLEEVE POSITION	T control lever	
Rated speed rpm : 1000	position degree	: 10.0
	tolerance degree	
Rack travel in mm : 16.50	+	
Tolerance mm : + 1.30	† Testing:	
	†	250
CIAL LAAR DELTIERS AT COLUMN	Rated speed rpm	
FULL LOAD DELIVERY AT FULL LOAD	STOP + rack travel mm + Tolerance mm	: 4.95 : +- 0.15
Rated speed rpm : 700	Total ance uni	0.7
Aneroid pressure	Rated speed rpm	: 100
hPa : 1200	-	
	+ CRT mm min.	: > 6.50
	•	

Rated speed rpm	: 315
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 700 : 14.25 : + 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 14.25 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm	: - : 500
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 865 : 3.80 : + 0.10
Pressure hPa rack travel mm Tolerance mm	: 100 : 0.25 : + 0.05
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: - : 700
cm3/1000 strokes Tolerance	: 164.0
cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: +- 4.0

STARTING FUEL DELIVERY

Rated speed rpm	: 100
rack travel mm	: 20.50
Tolerance mm	: +- 0.50
Del. quantity	
cm3/1000 strokes	: 290.0
Tolerance	
cm3/1000 strokes	: +- 20.0
Check tolerance	
cm3/1000s	· +- 24.0

LOW IDLE

Del. quantity cm3/1000 strokes Tolerance	:	20.0	
cm3/1000 strokes	: +-	2.5	
Check tolerance cm3/1000S. Spreed	: +-	5.5	
Tolerance cm3/1000 strokes	:	5.0	
Check tolerance cm3/1000s.	:	7.0	

End of test specification sheet

Rack travel in mm : 13.20
Rated speed rpm : 995
Tolerance 1/min : + 5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.04.96 : ISO 4113 Test oil

Combination No. : 9 400 087 475

Injection pump

Pump designation : PES5P120A720LS7280

EP type number : 9 400 087 087

Governor

Governer design. : RQV300...950PA1029

: -6

: 9 420 080 360 Governer no.

Cust. part No. : 0240742602

Customer-spec. information

Customer : MBB

: OM 449 LA Motor

Power KW : 220.6

TEST BENCH REQUIREMENTS

: 4.1 Inlet line

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 4.65 : + 0.05Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 21.00

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45

: +- 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 245.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance 4.0 cm3/1000s. : +-

Spreed

Tolerance

5.0 cm3/1000 strokes :

Check tolerance cm3/1000s. 9.0

Del. quantity

cm3/1000 strokes : 12.0

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Tolerance +	Check tolerance
cm3/1000 strokes : + 3.0	cm3/1000s. : +- 4.0
Check tolerance	Spreed
cm3/1000s. : +- 6.0	Tolerance
	cm3/1000 strokes : 5.0
Spreed	
Tolerance +	Check tolerance
cm3/1000 strokes : 8.0 +	cm3/1000s. : 9.0
Check tolerance +	
cm3/1000s. : 12.0 +	
+	
+	CONTROL LEVER
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	control lever
+	position degree : 52.0
	tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	_
+	control lever
Rated speed rpm : 1050	position degree : 117.0
guide sleeve	tolerance degree : +- 4.0
travel mm : 7.80	
Tolerance mm : + 0.10	RATED SPEED
1020.01.00 (1111	Willes or Bins
Rated speed rpm : 700	rack travel mm : 12.50
guide steeve	Rated speed rpm : 985
travel mm : 5.45	Tolerance 1/min : +- 5
Tolerance mm : + 0.25	Toterance mining.
Toterance num : + 0.25	rack travel mm : 4.00
Rated speed rpm : 300	
guide sleeve	Tolerance 1/min : + 15
travel mm : 0.75	0.50
Tolerance mm : +- 0.25	rack travel mm : 0.50
	Tolerance mm : + 0.50
Rated speed rpm : 500 +	Rated speed rpm : 1250
guide sleeve	
travel mm : 3.45	
Tolerance mm : + 0.25	
+	LOW IDLE
Rated speed rpm : 1165	
guide sleeve +	
travel mm : 9.45 +	control lever
Tolerance mm : + 0.25 +	position degree : 83.0
-	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	control lever
+	position degree : 18.0
Rated speed rpm : 1120	tolerance degree : + 4.0
<u> </u>	-
Rack travel in mm: 16.50	Testing:
Tolerance mm : + 1.30 +	
	Rated speed rpm : 300
	rack travel mm : 5.30
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
Rated speed rpm : 700	Rated speed rpm : 100
Aneroid pressure	
hPa : 1300	CRT mm min. : > 9.00
Del. quantity	5141 Hate 101111 6 7 74 00
cm3/1000 strokes : 245.0	Rated speed rpm : 325
Tolerance +	hases speed in . Jes
cm3/1000 strokes : +- 1.0 +	
T TO THE TOTAL TOT	

		+	Check tolerance
TORQUE CONTROL		+	cm3/1000s. : +- 5.0 Spreed
Rated speed rpm rack travel mm Tolerance mm		1	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
		-	
Rated speed rpm rack travel mm Tolerance mm	: 13.45	Ŧ	Aneroid pressure hPa : - Rated speed rpm : 500
rocerance min	; — 0.03		Del. quantity
ANEROID/ALTITUDE COMPENSATOR TEST		Ī	Tolerance cm3/1000 strokes : + 1.0
SETTING		‡	Check tolerance cm3/1000s. : +- 4.0 Spreed
Rated speed rpm	: 500	1	Tolerance cm3/1000 strokes : 5.0
Pressure hPa rack travel mm	: 1300	I	Check tolerance cm3/1000s. : 9.0
Tolerance mm		1	
MEASUREMENT		<u> </u>	BREAKAWAY
Pressure hPa Rated speed rpm	500	‡	Rack travel in mm : 12.50 Rated speed rpm : 985
Rated speed rpm	: 500		Tolerance 1/min : + 5
Pressure hPa rack travel mm	: 600 : 2.45	Ŧ	
Tolerance mm	: + 0.15	Ŧ	STARTING FUEL DELIVERY
Pressure hPa rack travel mm	: 400 1.10	$\frac{1}{1}$	Rated speed rpm : 100 Del. quantity
Tolerance mm	· + 0.10	$\frac{1}{2}$	cm3/1000 strokes : 220.0 Tolerance
START CUT-OUT			cm3/1000 strokes : + 10.0 Check tolerance
	. > 100	Ŧ	cm3/1000s. : + 14.0
Rated speed rpm Rated speed rpm		Ī	
Check speed 1/min Check	: > 80	‡	LOW IDLE
speed 1/min	: < 240	+	Del. quantity cm3/1000 strokes : 12.0
FUEL DELIVERY CHA	ARACTERISTICS	+	Tolerance cm3/1000 strokes : + 3.0 Check tolerance
Aneroid pressure	: 1300	$\frac{1}{1}$	cm3/1000s. : +- 6.0 Spreed
Rated speed rpm		Ŧ	Tolerance
Del. quantity cm3/1000 strokes	: 241.0	Ŧ	Check tolerance
Tolerance cm3/1000 strokes	: +- 2.0	‡	cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.04.96 Test oil : ISO 4113

Combination No. : 9 400 087 476

Injection pump

Pump designation : PES6P120A720LS7181

: -10

EP type number : 0 412 726 870

Governor

Governer design. : RQV300...1050PA1055

Governer no. : 9 420 080 337

Cust. part No. : 0190741502

Customer-spec. information Customer : MBB Motor : OM447LA

Power KW : 301.8

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05 Tolerance mm : +- 0.05 Check tolerance mm : ← 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 6-2-4-1-5-

: 3

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 15.15 Tolerance mm : \leftarrow 0.05

Del. quantity cm3/1000 strokes : 266.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance : + 4.0 cm3/1000s.

Spreed Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s. : 9.0

Del. quantity cm3/1000 strokes : 14.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0	Del. quantity cm3/1000 strokes : 266.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER
GUIDE SLEEVE TRAVEL	position degree : 60.0 tolerance degree : + 4.0
Rated speed rpm : 300 guide sleeve travel mm : 1.40 Tolerance mm : + 0.20	control lever position degree : 115.0 tolerance degree : + 4.0
Rated speed rpm : 1100 guide sleeve travel mm : 7.65 Tolerance mm : + 0.25	RATED SPEED rack travel mm : 14.10 Rated speed rpm : 1095 Tolerance 1/min : +- 5
Rated speed rpm : 500 guide sleeve travel mm : 3.25 Tolerance mm : + 0.25	rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : + 15
Rated speed rpm : 900 - guide sleeve travel mm : 5.85 - Tolerance mm : + 0.25	rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1300
Rated speed rpm : 1210	LOW IDLE
guide sleeve travel mm : 9.55 Tolerance mm : +- 0.25	control lever position degree : 68.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION	
Rated speed rpm : 1140	control lever position degree : 13.0 tolerance degree : +- 4.0
Rack travel in mm: 16.50 Tolerance mm: + 1.30	Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 300 rack travel mm : 6.00 Tolerance mm : ÷- 0.10
Rated speed rpm : 1050 Aneroid pressure hPa : 1200	Rated speed rpm : 100 CRT mm min. :> 8.00
T	

Rated speed rpm	: 400	Tolerance cm3/1000 strokes : +- 2.0 Check tolerance
TORQUE CONTROL	-	+ cm3/1000s. : +- 5.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 15.15 : +- 0.05 : 700	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 133.0 Tolerance
rack travel mm Tolerance mm	: 15.15	+ cm3/1000 strokes : + 1.0 + Check tolerance + cm3/1000s. : + 4.0
		Spreed
ANEROID/ALTITUDE COMPENSATOR TEST		Tolerance cm3/1000 strokes : 5.0 Check tolerance
SETTING		+ cm3/1000s. : 9.0
Rated speed rpm Pressure hPa rack travel mm	: 1200	BREAKAWAY
Tolerance mm	; + 0.05	Rack travel in mm: 14.10 Rated speed rpm: 1095
MEASUREMENT		† Tolerance 1/min : +- 5
Pressure hPa Rated speed rpm	: - : 600	STARTING FUEL DELIVERY
Rated speed rpm	: 600	+
Pressure hPa rack travel mm Tolerance mm	. 820 : 3.85 : + 0.15	+ Rated speed rpm : 100 - Del. quantity - cm3/1000 strokes : 260.0 - Tolerance
Pressure hPa		cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 14.0
Tolerance mm	: + 0.10	1
START CUT-OUT		
Rated speed rpm Rated speed rpm	: > 100 : < 220	LOW IDLE Del. quantity cm3/1000 strokes : 14.0
Check speed 1/min	: > 80	Tolerance cm3/1000 strokes : + 3.0
Check speed 1/min	: < 240	+ Check tolerance + cm3/1000s. : +- 6.0 + Spreed
FUEL DELIVERY CHAR	RACTERISTICS	Tolerance cm3/1000 strokes : 8.0
Aneroid pressure		+ Check tolerance + cm3/1000s. : 12.0
hPa Rated speed rpm Del. quantity	: 1200 : 700	<u>†</u>
cm3/1000 strokes	: 269.5	+

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.04.96 Test oil : ISO 4113

Combination No. : 9 400 087 483

Injection pump

Pump designation : PES5P120A720LS7280 EP type number : 9 400 087 087

Governor

Governer design. : RQV300...950PA1029

: -5

Governer no. : 9 420 080 358

Cust. part No. :

Customer-spec. information

Customer : MBB

Motor : OM 449 LA Power KW : 184.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.65
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm: 21.00

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 12.25 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 202.5

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s. 9.0

Del. quantity cm3/1000 strokes : 11.0

B20

Tolerance +	Check tolerance
cm3/1000 strokes : +- 3.0 +	cm3/1000s. : +- 4.0
Check tolerance +	Spreed
cm3/1000s. : + 6.0 +	Tolerance
Spreed	cm3/1000 strokes : 5.0
Tolerance +	Check tolerance
cm3/1000 strokes : 8.0 + Check tolerance	cm3/1000s. : 9.0
cm3/1000s. : 12.0	
1	CONTROL LEVER
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	control lever
+	position degree : 52.0
	tolerance degree : + 4.0
GUIDE SLEEVE TRAVEL	and the Land
Rated speed rpm : 1050	control lever
Rated speed rpm : 1050 + guide sleeve +	position degree : 117.0 tolerance degree : +- 4.0
travel mm : 7.80	toterance degree : +- 4.0
Tolerance mm : + 0.10	RATED SPEED
Total differential Control of the Co	WATER OFFER
Rated speed rpm : 700	rack travel mm : 11.20
guide sleeve	Rated speed rpm : 1005
travel mm : 5.45 +	Tolerance 1/min : +- 5
Tolerance mm : + 0.25 +	
+	rack travel mm : 4.00
Rated speed rpm : 300 +	Rated speed rpm : 1115
guide sleeve +	Tolerance 1/min : + 15
travel mm : 0.75	
Tolerance mm : + 0.25 +	rack travel mm : 0.50
T	Tolerance mm : + 0.50
Rated speed rpm : 500	Rated speed rpm : 1250
guide sleeve + travel mm : 3.25 +	
Tolerance mm : + 0.25	
Total arte mair	LOW IDLE
Rated speed rpm : 1165	CON TOLL
guide sleeve	
travel mm : 9.45	control lever
Tolerance mm : + 0.25	position degree : 82.0
+	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION +	control lever
1420	position degree : 17.0
Rated speed rpm : 1120	tolerance degree : +- 4.0
Rack travel in mm: 16.50	Testing:
Tolerance mm : +- 1.30	resting.
Total and and	Rated speed rpm : 300
	rack travel mm : 5.10
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 5.10 Tolerance mm : + 0.10
+	
Rated speed rpm : 600	Rated speed rpm : 100
Aneroid pressure	, ,
hPa : 1000 +	CRT mm min. :> 8.00
Del. quantity +	
cm3/1000 strokes : 202.5	Rated speed rpm : 325
Tolerance +	
cm3/1000 strokes : +- 1.0 +	

		+ Check toler ace
TORQUE CONTROL		
Rated speed rpm rack travel mm	: 12.25	cm3/1000 strokes : 8.0 Check tolerance
Tolerance mm	; + 0.05	- cm3/1000s. : 12.0
Rated speed rpm rack travel mm	: 12.25	Aneroid pressure
Tolerance mm	: +- 0.05	Rated speed rpm : 500 Del. quantity
ANEROID/ALTITUDE		
COMPENSATOR TEST		cm3/1000 strokes : + 1.0 Check tolerance
SETTING		cm3/1000s. : +- 4.0 Spreed Tolerance
Rated speed rpm Pressure hPa	: 500 : 1000	cm3/1000 strokes : 5.0 Check tolerance
rack travel mm Tolerance mm	: 12.25	Aneroid pressure hPa : Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 116.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
MEASUREMENT		BREAKAWAY
Pressure hPa Rated speed rpm	: - : 500	Rack travel in mm : 11.20 Rated speed rpm : 1005
Rated speed rpm	: 500	+ Rated speed rpm : 1005 + Tolerance 1/min : + 5
Pressure hPa rack travel mm	: 600	
Tolerance mm	: +- 0.10	+ STARTING FUEL DELIVERY
Pressure hPa rack travel mm Tolerance mm	: 360 : 0.55 : + 0.05	+ Rated speed rpm : 100 + Del. quantity + cm3/1000 strokes : 250.0
		Tolerance + cm3/1000 strokes : + 10.0
START CUT-OUT		Check tolerance + cm3/1000s. : + 14.0
Rated speed rpm Rated speed rpm	: > 100 : < 220	
Check speed 1/min Check	: > 80	LOW IDLE
speed 1/min	: < 240	Del. quantity cm3/1000 strokes : 11.0
FUEL DELIVERY CHA	ARACTERISTICS	Tolerance cm3/1000 strokes : + 3.0 Check tolerance
Aneroid pressure	: 1000	cm3/1000s. : +- 6.0 + Spreed
Rated speed rpm Del. quantity	: 950	Tolerance cm3/1000 strokes : 8.0
cm3/1000 strokes Tolerance cm3/1000 strokes		check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.04.96 Test oil : ISO 4113

Combination No. : 9 400 087 485

Injection pump

Pump designation : PES5P120A720LS7280 EP type number : 9 400 087 087

Governor

Governer design. : RQV300...950PA1029

: 9 420 080 363 Governer no.

Cust. part No.

Customer-spec. information

Customer

: MBB

: OM 449 LA Motor Power KW : 220.7

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

40 temp. °C Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar : **←** 1.5 Tolerance bar

: 1 680 750 075 Test lines

Outside diameter : 8.0 x inside diameter: 3.0 : 1000 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm Tolerance mm : +- 0.05 Check

tolerance mm : + 0.10

Rack travel in mm: 21.00

Firing order : 1-3-5-4-2

: 0-72-144-216-288 Phasing

BASIC SETTING

700 Rated speed rpm :

Rack travel in mm: 13.75 : + 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 263.5

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance cm3/1000s. 4.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. 9.0

Del. quantity

cm3/1000 strokes : 17.0

Tolerance +	Check tolerance
cm3/1000 strokes : +- 3.0 +	cm3/1000s. : +- 4.0
Check tolerance	Spreed
cm3/1000s. : +- 6.0	Tolerance
Spreed	cm3/1000 strokes : 5.0
Tolerance	Check tolerance
cm3/1000 strokes : 8.0	cm3/1000s. : 9.0
Check tolerance	CIID7 (0005
m	
cm3/1000s. : 12.0	
†	CONTROL LEVED
(B) SETTING OF INJECTION PUMP	CONTROL LEVER
	control lavas
WITH GOVERNOR	control lever
	position degree : 52.0 tolerance degree : +- 4.0
CHIDE SLEEVE TRAVEL	tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	mandanal lauran
Rated speed rpm : 1050	control lever
the second secon	position degree : 117.0
guide steeve	tolerance degree : +- 4.0
travel mm : 7.80	D.L. COLOR
Tolerance mm : + 0.10	RATED SPEED
700	40.70
Rated speed rpm : 700	rack travel mm : 12.70
guide steeve +	Rated speed rpm : 995
travel mm : 5.45	Tolerance 1/min : + 5
Tolerance mm : + 0.25 +	
+	rack travel mm : 4.00
Rated speed rpm : 300	Rated speed rpm : 1125
guide sleeve +	Tolerance 1/min : + 15
travel mm : 0.75 +	
Tolerance mm : + 0.25 +	rack travel mm : 0.50
+	Tolerance mm : + 0.50
Rated speed rpm : 500	Rated speed rpm : 1250
guide sleeve	, ,
travel mm : 3.55	
Tolerance mm : + 0.25	
+	LOW IDLE
Rated speed rpm : 1165	
guide sleeve	
travel mm : 9.45	control lever
Tolerance mm : + 0.25	position degree : 83.0
	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	control lever
-	position degree : 18.0
Rated speed rpm : 1120	tolerance degree : + 4.0
	,,,,
Rack travel in mm: 16.50	Testing:
Tolerance mm : + 1.30	
	Rated speed rpm : 300
	rack travel mm : 5.30
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
	The second control of
Rated speed rpm : 700	Rated speed rpm : 100
Aneroid pressure	mood opeda i pilit i i i i i i i i i i i i i i i i i i
hPa : 1300	CRT mm min. :> 9.00
Del. quantity	you may mark 6 ° 24€€
cm3/1000 strokes : 263.5	Rated speed rpm : 325
Tolerance	hatea specu (piii . Ses
cm3/1000 strokes : + 1.0	
T TIMES A TIMES	

	+	Check tolerance
TORQUE CONTROL	+	cm3/1000S. : +- 5.0 Spreed
m	+	Tolerance
Rated speed rpm : rack travel mm :	700 13.75	cm3/1000 strokes : 8.0 Check tolerance
	+ 0.05	cm3/1000s. : 12.0
occiding init	1	(1157 1000)
Rated speed rpm :	950	Aneroid pressure
ack travel mm :	13.75	hPa : -
olerance mm :	+ 0.05 +	Rated speed rpm : 500
	†	Del. quantity
ANEROID/ALTITUDE	<u> </u>	cm3/1000 strokes : 121.0 Tolerance
COMPENSATOR TEST	I	cm3/1000 strokes : +- 1.0
OUR CHOMFOR TEST	1	Check tolerance
	+	cm3/1000s. : +- 4.0
ETTING	+	Spreed
	+	Tolerance
eated speed rpm :	500 +	cm3/1000 strokes : 5.0
	1300 13.75	Check tolerance cm3/1000s. : 9.0
	+ 0.05	cm3/1000s. : 9.0
Oceranice min	Ţ	
MEASUREMENT	+	BREAKAWAY
	+	
ressure hPa :	+	
ated speed rpm :	500 +	Rack travel in mm: 12.70
ntad anaad man	500	Rated speed rpm : 995 Tolerance 1/min : +- 5
ated speed rpm :	³⁰⁰ I	Toterance Mining: +- 3
ressure hPa :	800	
ack travel mm :	2.85	
olerance mm :	+- 0.15 +	STARTING FUEL DELIVERY
Deserves https://doi.org/10.1000/	480	Rated speed rpm : 100
Pressure hPa : : : : : : : : : : : : : : : : : : :	480 +	Rated speed rpm : 100 Del. quantity
	+ 0.10	cm3/1000 strokes : 250.0
Occidence and	1	Tolerance
		cm3/1000 strokes : +- 10.0
TART CUT-OUT	+	Check tolerance
A t 3	+	cm3/1000s. : +- 14.0
ated speed rpm : ated speed rpm :		
ated speed rpm :	· 220 I	
heck	1	
speed 1/min :	> 80 +	LOW IDLE
heck	+	
peed 1/min :	< 240 +	Del. quantity
	†	cm3/1000 strokes : 17.0
EL DELTHERY CHARAC	TEDISTICS	Tolerance cm3/1000 strokes : +- 3.0
JEL DELIVERY CHARAC	154191109	cm3/1000 strokes : +- 3.0 Check tolerance
neroid pressure	Ī	cm3/1000s. : +- 6.0
Pa :	1300	Spreed
ated speed rpm :	950 +	Tolerance
el. quantity	+	cm3/1000 strokes : 8.0
n3/1000 strokes :	256.0 +	Check tolerance
lerance	+ 30 +	cm3/1000s. : 12.0
m3/1000 strokes : -	+- 2.0 +	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.04.96 Test oil : ISO 4113

Combination No. : 9 400 087 486

Injection pump

Pump designation : PESSP120A720LS7329

EP type number : 9 400 087 088

Governor

Governer design. : RQV300...1050PA1055

Governer no. : 9 420 080 337

Cust. part No. : 4750747002

Customer—spec. information Customer : MBB Motor : OM449LA Power KW : 220.8

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 15.15 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 266.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s.

: +- 4.0

Spreed

Tolerance

cm3/1000 strokes :

5.0

Check tolerance

cm3/1000s.

9.0

:

Del. quantity +	Tolerance
cm3/1000 strokes : 14.0	cm3/1000 strokes : +- 1.0
Tolerance	Check tolerance
cm3/1000 strokes : +- 3.0 +	cm3/1000s. : +- 4.0
Check tolerance	Spreed
cm3/1000s. : +- 6.0	Tolerance
Spreed	cm3/1000 strokes : 5.0
Tolerance	Check tolerance
cm3/1000 strokes : 8.0	cm3/1000s. : 9.0
Check tolerance	CiiD7 (0003. ; 9.0
cm3/1000s. : 12.0	
CIIID / 10005. : 12.0 T	
T	CONTROL LEVED
(B) SETTING OF INJECTION PUMP	CONTROL LEVER
	control loven
WITH GOVERNOR	control lever
Ť	position degree : 60.0
AUTOR OF THE TOURS	tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	
700	control lever
Rated speed rpm : 300 +	position degree : 115.0
guide steeve	tolerance degree : +- 4.0
travel mm : 1.40 +	
Tolerance mm : + 0.20 +	RATED SPEED
+	
Rated speed rpm : 1100 +	rack travel mm : 14.10
guide sleeve	Rated speed rpm : 1095
travel mm : 7.65 +	Tolerance 1/min : +- 5
Tolerance mm : + 0.25	
+	rack travel mm : 4.00
Rated speed rpm : 500 +	Rated speed rpm : 1195
guide sleeve	Tolerance 1/min : + 15
travel mm : 3.25	
Tolerance mm : + 0.25	rack travel mm : 0.75
1	Tolerance mm : + 0.75
Rated speed rpm : 900	Rated speed rpm : 1300
guide sleeve	·
travel mm : 5.85	
Tolerance mm : + 0.25	
,	LOW IDLE
Rated speed rpm : 1210	
guide sleeve	
travel mm : 9.55	control lever
Tolerance mm : + 0.25	position degree : 68.0
TO COT AT TO STATE OF THE STATE	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	control lever
GOIDE GELEVE : GOITION	position degree : 13.0
Rated speed rpm : 1140	tolerance degree : +- 4.0
Traced opeca (p.ii)	To co. ario a angres
Rack travel in mm: 16.50	Testing:
Tolerance mm : + 1.30	reserre.
	Rated speed rpm : 300
	rack travel mm : 6.00
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
TOLL COND DELIVERY AT TOLL COND OTO	(SCC) GIRGO THE TOTAL SCENARIO
Rated speed rpm : 1050	Rated speed rpm : 100
Aneroid pressure	nation speed (pill to 100
hPa : 1200	CRT mm min. :> 8.00
	GIVE HIRD MARCE O.UU
Del. quantity + cm3/1000 strokes : 266.0 +	Rated speed rpm : 400
cm3/1000 strokes : 266.0 +	varen sheen chiii . 400

		+	Check tolerance
ORQUE CONTROL		+	cm3/1000s. : +- 5.0
ed speed rpm travel mm	: 1050 : 15.15 : + 0.05	‡	Aneroid pressure hPa : - Rated speed rpm : 500
		Ŧ	Del. quantity cm3/1000 strokes : 133.0
ted speed rpm ck travel mm Lerance mm	: 700 : 15.15 : +- 0.05	1	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
			cm3/1000S. : +- 4.0 Spreed
EROID/ALTITUDE MPENSATOR TEST		+	Tolerance cm3/1000 strokes : 5.0 Check tolerance
TING		+	cm3/1000s. : 9.0
ted speed rpm essure hPa ck travel mm	: 600 : 1200 : 15.15	‡	BREAKAWAY
lerance mm ASUREMENT	: +- 0.05	‡	Rack travel in mm : 14.10 Rated speed rpm : 1095 Tolerance 1/min : + 5
essure hPa	-	‡	
ed speed rpm		‡	STARTING FUEL DELIVERY
ed speed rpm	: 600	‡	Rated speed rpm : 100
ssure hPa k travel mm erance mm	: 820 : 3.85 : + 0.15	‡	Del. quantity cm3/1000 strokes : 260.0 Tolerance
	: 500	Ŧ	cm3/1000 strokes : + 10.0 Check tolerance
essure hPa ck travel mm lerance mm	: 1.30 : + 0.10	1	cm3/1000S. : +- 14.0
ART CUT-OUT		+	100 7015
ed speed rpm		Ŧ	LOW IDLE
ted speed rpm	: < 220	İ	Del. quantity cm3/1000 strokes : 14.0 Tolerance
eed 1/min eck	: > 80	+	cm3/1000 strokes : +- 3.0 Check tolerance
ed 1/min	: < 240	+	cm3/1000S. : + 6.0 Spreed
L DELIVERY CHA	ARACTERISTICS		Tolerance cm3/1000 strokes : 8.0 Check tolerance
eroid pressure	: 1200	‡	cm3/1000s. : 12.0
ited speed rpm	: 700	‡	
3/1000 strokes lerance	: 269.5	‡	
/1000 strokes	: 2.0	+	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 12.04.96 Edition : JSO 4113 Test oil

Combination No. : 9 400 087 488

Injection pump

Pump designation : PES6P120A720RS3338 EP type number : 9 400 087 089

Governor

Governer design. : RQV350...1150PA923

: -7K

: 9 420 080 370 Governer no.

Cust. part No. :

Customer-spec. information : YULIN Customer : FNH 7.8L Motor Power KW : 179.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 072

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

208.5 Tolerance bar : **←** 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

BEGINNING OF DELIVERY

Test pressure bar : 18.0 Tolerance bar : + 1.0

2.40 Prestroke mm : +- 0.05 Tolerance mm Check

tolerance mm : + - 0.10Rack travel in mm: 10.50

Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 13.65 : **←** 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 166.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance cm3/1000s.

: +--4.0

5.0

Spreed Tolerance

cm3/1000 strokes :

Check tolerance

: 9.0 cm3/1000s.

CO4

Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes		Check tolerance cm3/1000s.	: 9.0
Check tolerance cm3/1000s.	: + 5.0	CONTROL LEVER	
Spreed Tolerance cm3/1000 strokes Check tolerance		control lever position degree tolerance degree	: 68.0 : +- 4.0
cm3/1000s.	: 8.0	control lever position degree tolerance degree	
(B) SETTING OF IN	NJECTION PUMP	RATED SPEED	
GUIDE SLEEVE TRAN	/EL	rack travel mm Rated speed rpm Tolerance 1/min	
Rated speed rpm guide sleeve travel mm	: 1200 : 9.60	rack travel mm Rated speed rpm	
Tolerance mm	: +- 0.10	Tolerance 1/min	
Rated speed rpm guide sleeve travel mm	: 3.90	rack travel mm Tolerance mm Rated speed rpm	: 0.50 : +- 0.50 : 1450
Tolerance mm Rated speed rpm	: +- 0.10 : 1000	Ī	
guide sleeve travel mm	: 7.90	LOW IDLE	
Tolerance mm	: +- 0.10	control lever	
Rated speed rpm guide sleeve travel mm	: 800 : 6.60	position degree tolerance degree	
Tolerance mm	: +- 0.20	control lever position degree	
Rated speed rpm guide sleeve travel mm	: 350 : 2.35	tolerance degree Testing:	: +- 4.0
Tolerance mm	: +- 0.15	Rated speed rpm	: 350
FULL LOAD DELIVER	RY AT FULL LOAD STOP	rack travel mm Tolerance mm	: 5.60 : + 0.10
Rated speed rpm Aneroid pressure	: 1150	Rated speed rpm	: 275
hPa Del. quantity	: 900	CRT mm min.	: > 6.90
cm3/1000 strokes Tolerance		+ Rated speed rpm	: 425
cm3/1000 strokes Check tolerance cm3/1000s.	: +- 1.0 : +- 4.0	TORQUE CONTROL	
Spreed Tolerance		Rated speed rpm rack travel mm	: 1150 : 13.65
cm3/1000 strokes	: 5.0	+ Tolerance mm	: + 0.05

		l at the s
Dottod amond num	. 750	+ Check tolerance + cm3/1000s. :+- 6.0
Rated speed rpm	: 750 : 12.20	+ cm3/1000s. : +- 6.0 + Spreed
rack travel mm Tolerance mm	; + 0.10	Tolerance
10 COL GILLO HER	0.10	cm3/1000 strokes : 8.0
Rated speed rpm	550	- Check tolerance
rack travel mm	11.20	+ cm3/1000s. : 12.0
Tolerance mm	· + 0.20	100000
. 3 (3 (10 3))		Aneroid pressure
ANEROID/ALTITUDE		+ Rated speed rpm : 500
COMPENSATOR TEST		- Del. quantity
		+ cm3/1000 strokes : 106.5
		+ Tolerance
SETTING		+ cm3/1000 strokes : + 2.0
		+ Check tolerance
Rated speed rpm	: 1150	+ cm3/1000s. : $+$ 4.0
Pressure hPa	: 900	+
Pressure hPa rack travel mm	: 13.65	
Tolerance mm	: ← 0.05	BREAKAWAY
		+
MEASUREMENT		+
		+ Rack travel in mm : 12.60
Pressure hPa	: -	Rated speed rpm : 1215
Rated speed rpm		† Tolerance 1/min : + 5
rack travel mm		+
Tolerance mm	: +- 0.20	†
Rated speed rpm	: 1150	+ STARTING FUEL DELIVERY
D	. /""	Total aread area
Pressure hPa	635	Rated speed rpm : 100
rack travel mm	: 12.70 : +- 0.20	rack travel mm : 11.00 Tolerance mm : +- 0.40
Tolerance mm	: +- 0.20	
Pressure hPa	: 365	+ Del. quantity + cm3/1000 strokes : 150.0
rack travel mm		Tolerance
Tolerance mm		cm3/1000 strokes : + 20.0
roter arice min	4 4- 0.05	Check tolerance
START CUT-OUT		1 1000
OTAIN GOT GOT		1
Rated speed rpm	: > 100	+
Rated speed rpm		
		+ LOW IDLE
Check		+
speed 1/min	: > 80	+ Del. quantity
Check		+ cm3/1000 strokes : 29.5
speed 1/min	: < 310	+ Tolerance
		+ cm3/1000 strokes : +- 3.0
FUEL DELIVERY CHA	ARACTERISTICS	+ cm3/1000s. : + 5.0
		+ Spreed
Aneroid pressure		+ Tolerance
hPa	: 900	+ cm3/1000 strokes : 5.0
Rated speed rpm	: 750	† Check tolerance
Del. quantity	446.6	+ cm3/1000s. : 8.0
cm3/1000 strokes	: 168.0	†
Tolerance		†
cm3/1000 strokes	: +- 3.0	†

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.04.96 Test oil : ISO 4113

Combination No. : 9 400 087 489

Injection pump

Pump designation : PES6P12DA72DRS3338

EP type number : 9 400 087 089

Governor

Governer design. : RQV350...1150PA923

: -8K

Governer no. : 9 420 080 371

Cust. part No. :

Customer-spec. information
Customer : YULIN
Motor : FNH 7.8L
Power KW : 156.6

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 072

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.40
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 1150

A7.55

Rack travel in mm : 13.55
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 159.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000S. : 9.0

c08

Del. quantity cm3/1000 strokes Tolerane	+	Check tolerance cm3/1000s. :	9.0
cm3/1000 strokes Check tolerance	: - 3.0	CONTROL LEVER	
cm3/1000s.	: + 5.0	CONTROL ELVER	
Spreed	+	control lever	
Tolerance	+	position degree :	71.0
cm3/1000 strokes Check tolerance		tolerance degree : +	- 4.0
cm3/1000s.		control lever	
	1		121.0
	+	tolerance degree : +	- 4.0
(B) SETTING OF I	NJECTION PUMP	RATED SPEED	
	+		12.50
GUIDE SLEEVE TRA	VEL +	Rated speed rpm :	1215
Rated speed rpm	: 1200	Tolerance 1/min : +-	- 5
guide sleeve	. 1200	rack travei mm :	4.00
travel mm	: 9.60	Rated speed rpm :	1350
Tolerance mm	: + 0.10 +	Tolerance 1/min : +-	- 15
Rated speed rpm	: 450	rack travel mm :	0.50
guide sleeve	. 430	Tolerance mm : +	- 0.50
travel mm	: 3.90		1420
Tolerance mm	: ← 0.10 +		
Rated speed rpm	: 1000		·····
guide sleeve	}	LOW IDLE	
travel mm Tolerance mm	: 7.90		
Tolerance mm	: + 0.10 <u>†</u>	control lever	
Rated speed rpm	: 800	position degree :	65.0
guide sleeve	+	tolerance degree : +-	
travel mm	: 6.60		
Tolerance mm	: + 0.20	control lever	16.0
Rated speed rpm	: 350	position degree : +	
guide sleeve	. 555	totor and acgree	7.0
travel mm	: 2.35	Testing:	
Tolerance mm	: + 0.15 †	Data dan sadan .	750
	I	Rated speed rpm : rack travel mm :	350 5.70
FULL LOAD DELIVER	RY AT FULL LOAD STOP		0.10
B.A. d	+	Data damentary	275
Rated speed rpm Aneroid pressure		Rated speed rpm :	275
hPa	: 900	CRT mm min. :>	6.70
Del. quantity	+		
cm3/1000 strokes	: 159.5	Rated speed rpm :	425
Tolerance	· <u> </u>		
cm3/1000 strokes Check tolerance	: + 1.0	TORQUE CONTROL	
cm3/1000s.	: +- 4.0	TORAGE CONTINUE	
Spreed	+		1150
Tolerance	+		13.55
cm3/1000 strokes	: 5.0 +	Tolerance mm : +-	0.05

		+ Check tolerance
Rated speed rpm		+ cm3/1000s. : +- 6.0
rack travel mm		+ Spreed
Tolerance mm	: +- 0.10	+ Tolerance
		+ cm3/1000 strokes : 8.0
Rated speed rpm	: 550	+ Check tolerance
rack travel mm		+ cm3/1000s. : 12.0
rack travel mm Tolerance mm	: +- 0.20	1 12.0
Oterance and	0.20	Anomaid procesure
		Aneroid pressure
1117777		hPa : -
ANEROID/ALTITUDE		+ Rated speed rpm : 500
COMPENSATOR TEST		+ Del. quantity
		+ cm3/1000 strokes : 108.5
		+ Tolerance
ETTING		+ cm3/1000 strokes : +- 2.0
		+ Check tolerance
ated speed rpm	: 1150	+ cm3/1000s. : +- 4.0
ressure hPa		1 710
		T
ack travel mm		DDEALANA
olerance mm	: +- 0.05	+ BREAKAWAY
		+
IEASUREMENT		+
		+ Rack travel in mm : 12.50
ressure hPa	: -	Rated speed rpm : 1215
ated speed rpm	: 1150	+ Tolerance 1/min : +- 5
ck travel mm	8.70	1 occi alloc militi
		T
erance mm	: +- 0.20	†
amond man	: 1150	STARTING FUEL DELIVERY
speed rpm	: 1150	T STARTING FUEL DELIVERT
	. 500	T Dated aread area a 400
ure hPa	: 500	+ Rated speed rpm : 100
k travel mm	: 12.40	† rack travel mm : 12.00
lerance mm	: + 0.20	+ Tolerance mm : + 0.40
		+ Del. quantity
sure hPa	: 300	+ cm3/1000 strokes : 170.0
travel mm	: 10.15	Tolerance
	: +- 0.05	- cm3/1000 strokes : + 20.0
erance mm	; 0.05	
		+ Check tolerance
CUT-OUT		†
		†
speed rpm	: > 100	+
speed rpm	: < 290	
		+ LOW IDLE
1/min	: > 80	Del. quantity
ed itmin ck	00	
מידות/ו ועב		† Tolerance
ed Diriti	: < 310	1 10 14 MAR
ed (/ii/ii/	: < 310	- cm3/1000 strokes : +- 3.0
ed min	: < 310	Check tolerance
		Check tolerance cm3/1000s. : +- 5.0
EL DELIVERY CHA		Check tolerance cm3/1000S. : +- 5.0 Spreed
Deed 1/min JEL DELIVERY CHA	ARACTERISTICS	Check tolerance cm3/1000S.: +- 5.0 Spreed Tolerance
UEL DELIVERY CHA meroid pressure	ARACTERISTICS : 900	Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 5.0
EL DELIVERY CHA eroid pressure a ted speed rpm	ARACTERISTICS	Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
EL DELIVERY CHA roid pressure ed speed rpm . quantity	ARACTERISTICS : 900 : 750	Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 5.0
EL DELIVERY CHA eroid pressure ded speed rpm ded speed rpm	ARACTERISTICS : 900 : 750	Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
EL DELIVERY CHA croid pressure ded speed rpm duantity 3/1000 strokes	ARACTERISTICS : 900 : 750	Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
JEL DELIVERY CHA	* 900 : 750 : 168.0	Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 15,04,96 Edition : ISO 4113 Test oil Combination No. : 9 400 087 491 Injection pump Pump designation : PE6P12OA72ORS3069 EP type number : 0 411 826 712 Governor Governer design. : RQV300...1000PA1164 : 9 420 080 373 Governer no. Cust. part No. Customer-spec. information : IVECO ARG. Customer Motor : IVECO 8210.22 Power KW : 224.0 TEST BENCH REQUIREMENTS Inlet line : 4.2 Test oil inlet temp. °C : +- 2.0 Tolerance °C : 2 417 413 046 Overflow valve Inlet press. bar : 1.5

: 1 688 901 019

208.5

: 1 680 750 075

8.0

: +- 1.5

REMARKS	
(A) INJECTION PUM Set equal deliver per values	
BEGINNING OF DELI	VERY
Test pressure bar Tolerance bar	
Prestroke mm Tolerance mm	: 3.55 : + 0.05
Check tolerance mm	: + 0.10
Rack travel in mm Tolerance mm	: 10.50 : + 1.50
Firing order	: 1-5- 3- 6- 2 : 4
Phasing	: 0-60-120-180-240 : -300
BASIC SETTING	
Rated speed rpm	: 1000
Rack travel in mm Tolerance mm	: 12.55 : + 0.05
Del. quantity cm3/1000 strokes	: 208.5
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: + 4.0
Spreed Tolerance cm3/1000 strokes	: 5.0

x inside diameter: 3.0

Test nozzle holde

Opening pressure

Outside diameter :

Tolerance bar

Test Lines

assembly

bar

Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes		Check tolerance cm3/1000s.	: 9.0
Check tolerance cm3/1000s.	: +- 6.0	CONTROL LEVER	
Spreed Tolerance cm3/1000 strokes Check tolerance	: 8.0	control lever position degree tolerance degree	
cm3/1000s.	: 12.0	control lever position degree tolerance degree	
(B) SETTING OF IN	NJECTION PUMP	RATED SPEED	
GUIDE SLEEVE TRAN	VEL	rack travel mm Rated speed rpm Tolerance 1/min	
Rated speed rpm guide sleeve travel mm Tolerance mm	: 8.70	rack travel mm Rated speed rpm Tolerance 1/min	: 1140
Rated speed rpm guide sleeve travel mm Tolerance mm	: 5.95	rack travel mm Tolerance mm Rated speed rpm	: 0.50 : ← 0.50 : 1250
Rated speed rpm guide sleeve travel mm	: 1.35	LOW IDLE	
Tolerance mm Rated speed rpm guide sleeve	: 450	control lever position degree tolerance degree	
travel mm Tolerance mm	: 2.95 : + 0.25	control lever position degree	
Rated speed rpm guide sleeve travel mm	: 1150 : 10.05	tolerance degree Testing:	: +- 4.0
Tolerance mm	: +- 0.25	Rated speed rpm rack travel mm	: 6.00
FULL LOAD DELIVER	RY AT FULL LOAD STOP	Tolerance mm	: + 0.10
Rated speed rpm Aneroid pressure		Rated speed rpm	: 100
hPa Del. quantity	: 600	CRT mm min.	: > 8.00
cm3/1000 strokes Tolerance	: 208.5	Rated speed rpm	: 375
cm3/1000 strokes Check tolerance		TORQUE CONTROL	
cm3/1000s. Spreed Tolerance	: +- 4.0	Rated speed rpm rack travel mm	: 12.55
cm3/1000 strokes	: 5.0	Tolerance mm	: +- 0.05

Rated speed rpm rack travel mm Tolerance mm ANEROID/ALTITUDE	: 12.55 : + 0.05	Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 131.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
COMPENSATOR TEST		
SETTING		+ BREAKAWAY
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 600 : 12.55	Rack travel in mm : 11.50 Rated speed rpm : 1045 Tolerance 1/min : + 5
MEASUREMENT		STARTING SHELL DELIVERY
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	500 9.80 + 0.10	Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 200.0 Tolerance
Rated speed rpm	: 500	+ cm3/1000 strokes : + 10.0
Pressure hPa rack travel mm Tolerance mm	: 210 : 10.50 : + 0.10	Check tolerance cm3/1000s. : +- 14.0
Pressure hPa rack travel mm Tolerance mm	: 280 : 11.75 : + 0.05	LOW IDLE
		Del. quantity cm3/1000 strokes : 18.0
START CUT-OUT		+ Tolerance + cm3/1000 strokes : +- 3.0
Rated speed rpm Rated speed rpm	: > 100 : < 220	+ Check tolerance + cm3/1000s. : + 6.0 + Spreed
Check speed 1/min	: > 80	Tolerance cm3/1000 strokes : 8.0
Check speed 1/min	: < 240	theck tolerance cm3/1000s. : 12.0
FUEL DELIVERY CHA	ARACTERISTICS	
Check tolerance cm3/1000s.	: 600 : 500 : 211.0 : + 2.0 : + 5.0	End of test specification sheet
Aneroid pressure hPa	: -	‡

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Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 15.04.96 Edition : ISO 4113 Test oil

Combination No. : 9 400 087 492

Injection pump

Pump designation : PES6P110A120RS7214 : 0 412 716 805 EP type number

Governor

Governer design. : RQV350...1100PA964

: -31K

: 9 420 080 374 Governer no.

Cust. part No. : 3355823

Customer-spec. information : CUMMINS Customer Motor : 6CTAA-290 Power KW : 220.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

: 1 680 750 008 Test lines

Outside diameter : 6.0

x inside diameter: 2.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 4.40 : +- 0.05 Tolerance mm

Check

tolerance mm : + - 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

900 Rated speed rpm :

Rack travel in mm: 13.95 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 186.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. 4.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance 9.0 cm3/1000s.

Del. quantity cm3/1000 strokes Tolerance		+++++++++++++++++++++++++++++++++++++++	Check tolerance cm3/1000s.	: 9.0
cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 4.0	+++++++++++++++++++++++++++++++++++++++	CONTROL LEVER control lever position degree tolerance degree RATED SPEED	
(B) SETTING OF IN WITH GOVERNOR	UECTION PUMP	† † †	rack travel mm Rated speed rpm Tolerance 1/min	: 1150 : + 5
GUIDE SLEEVE TRAV		— <u>†</u>	rack travel mm Rated speed rpm Tolerance 1/min	
Rated speed rpm guide sleeve travel mm Tolerance mm	: 350 : 1.90 : + 0.10	+++++++++++++++++++++++++++++++++++++++	rack travel mm Tolerance mm Rated speed rpm	: 0.50 : + 0.50 : 1500
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1200 : 9.10 : + 0.10	‡	LOW IDLE	
Rated speed rpm guide sleeve travel mm Tolerance mm	: 450 : 3.20 : + 0.20	† † † †	control lever position degree tolerance degree Testing:	
Rated speed rpm guide sleeve travel mm Tolerance mm	: 700 : 6.10 : + 0.20	+++++++++++++++++++++++++++++++++++++++	Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm guide sleeve	: 1400	Ī	Rated speed rpm	: 275
travel mm Tolerance mm	: 10.90 : + 0.20	+	CRT mm min. Rated speed rpm	: > 6.50 : 375
	Y AT FULL LOAD STOP	‡	TORQUE CONTROL	
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: 900 : 1500 : 186.0	†	Rated speed rpm rack travel mm Tolerance mm	: 900 : 13.95 : +- 0.05
Tolerance cm3/1000 strokes Check tolerance cm3/1000s.		Ŧ	Rated speed rpm rack travel mm Tolerance mm	: 1100 : 14.65 : + 0.05
Spreed Tolerance cm3/1000 strokes		+	Rated speed rpm rack travel mm Tolerance mm	: 700 : 12.90 : + 0.10

		+ Aneroid pressure
ANEROID/ALTITUDE COMPENSATOR TEST		Rated speed rpm : 700
COMPENSATOR TEST		+ Del. quantity + cm3/1000 strokes : 180.0
		+ Tolerance
SETTING		+ cm3/1000 strokes : +- 3.0
Data days and annu	. 1100	Check tolerance
Rated speed rpm Pressure hPa	• 1100 • 1500	+ cm3/1000s. : + 6.0
rack travel mm	14.65	Aneroid pressure
rack travel mm Tolerance mm	: +- 0.05	+ hPa : -
		Rated speed rpm : 500
MEASUREMENT		+ Del. quantity + cm3/1000 strokes : 104.0
Pressure hPa	•	+ cm3/1000 strokes : 104.0 Tolerance
Rated speed rpm	1100	- cm3/1000 strokes : +- 2.0
rack travel mm Tolerance mm	: 8.50	+ Check tolerance
Tolerance mm	: + 0.10	+ cm3/1000s. : + 4.0
Rated speed rpm	. 1100	
Nated speed (pill	. 1100	BREAKAWAY
Pressure hPa		+
rack travel mm	: 14.30	†
Tolerance mm	: + 0.10	Rack travel in mm : 13.65 Rated speed rpm : 1150
Pressure hPa	: 600	+ Tolerance 1/min : +- 5
rack travel mm	: 10.45	+
Tolerance mm	: ← 0.05	†
		STARTING FUEL DELIVERY
START CUT-OUT		+
		Rated speed rpm : 100
Rated speed rpm Rated speed rpm	: > 100 : < 240	rack travel mm : 11.20 Tolerance mm : + 0.50
kated speed rpm	: < 240	Tolerance mm : + 0.50 Del. quantity
Check		+ cm3/1000 strokes : 150.0
speed 1/min	: > 80	Tolerance
Check	250	+ cm3/1000 strokes : + 20.0
speed 1/min	: < 250	+ Check tolerance + cm3/1000s. : +- 25.0
FUEL DELIVERY CHA	ARACTERISTICS	+
Aneroid pressure		
hPa	: 1500	+ LOW IDLE
Rated speed rpm	: 1100	+
Del. quantity	. 400 0	Del. quantity
cm3/1000 strokes Tolerance	: 185.0	t cm3/1000 strokes : 43.0 Tolerance
cm3/1000 strokes	: +- 3.0	+ cm3/1000 strokes : +- 2.0
Check tolerance		+ Check tolerance
cm3/1000S.	: +- 6.0	+ cm3/1000s. : +- 4.0
Spreed		+ Spreed
Tolerance cm3/1000 strokes	: 8.0	+ Tolerance + cm3/1000 strokes : 8.0
Check tolerance	. 0.0	+ Check tolerance
cm3/1000s.	: 12.0	+ cm3/1000s. : 12.0
		†

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.04.96 Test oil : ISO 4113

Combination No. : 9 400 087 496

Injection pump

Pump designation : PES6P120A320/3RS3264

EP type number : 9 400 087 075

Governor

Governer design. : RQV350...1100PA1206

Governer no. : 9 420 080 378

Cust. part No. : 3355762

Customer—spec. information
Customer : CUMMINS
Motor : 6CTA
Power KW : 190.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. *C : 40 Tolerance *C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.50
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.85
Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 186.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s. :

9.0

Del. quantity cm3/1000 strokes : 15.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0	Del. quantity cm3/1000 strokes : 186.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever
GUIDE SLEEVE TRAVEL	position degree : 60.0 tolerance degree : +- 4.0
Rated speed rpm : 1075 guide sleeve travel mm : 7.60 Tolerance mm : + 0.10	control lever position degree : 115.0 tolerance degree : + 4.0
Rated speed rpm : 700	+ RATED SPEED
guide sleeve travel mm : 5.05 Tolerance mm : + 0.25	+ rack travel mm : 9.80 + Rated speed rpm : 1145 + Tolerance 1/min : +- 5
Rated speed rpm : 350 guide sleeve travel mm : 1.65	rack travel mm : 4.00 Rated speed rpm : 1200 Tolerance 1/min : + 15
Tolerance mm : +- 0.25	rack travel mm : 0.50
Rated speed rpm : 500 guide sleeve travel mm : 3.45	Tolerance mm : + 0.50 Rated speed rpm : 1300
Tolerance mm : + 0.25	
Rated speed rpm : 1200 guide sleeve	LOW IDLE
travel mm : 9.30 Tolerance mm : +- 0.20	control lever position degree : 70.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	control lever
Rated speed rpm : 1150	position degree : 15.0 tolerance degree : + 4.0
Rack travel in mm : 16.50 Tolerance mm : +- 1.30	Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 350 rack travel mm : 6.00 Tolerance mm : + 0.10
Rated speed rpm : 1100 Aneroid pressure	Rated speed rpm : 100
hPa : 1000	+ CRT mm min. :> 10.00

Rated speed rpm	: 375	Tolerance cm3/1000 strokes : +- 2.0 Check tolerance
TORQUE CONTROL	Antikali para kana da kana ga Majigarili kanga majika kalinga, dan nga manga paga dina ga kana kanga kana ga k	+ cm3/1000s. : + 5.0
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 10.85 : +- 0.05	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 111.5
Rated speed rpm rack travel mm Tolerance mm	: 10.85	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
ANEROID/ALTITUDE COMPENSATOR TEST		BREAKAWAY
SETTING Rated speed rpm Pressure hPa rack travel mm	: 1000 : 10.85	Rack travel in mm: 9.80 Rated speed rpm: 1145 Tolerance 1/min: + 5
Tolerance mm MEASUREMENT	: +- U.05	STARTING FUEL DELIVERY
Pressure hPa Rated speed rpm	: - : 500	+ Rated speed rpm : 100 + rack travel mm : 20.00 + Tolerance mm : + 1.00 + Del. quantity
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1.55	cm3/1000 strokes : 280.0 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0
Pressure hPa rack travel mm Tolerance mm	: 0.50	LOW IDLE
START CUT-OUT		Del. quantity cm3/1000 strokes : 15.0
Rated speed rpm Rated speed rpm	: > 100 : < 270	<pre>Tolerance cm3/1000 strokes : +- 3.0 Check tolerance</pre>
Check speed 1/min Check	: > 80	- cm3/1000s. : + 6.0 - Spreed - Tolerance
speed 1/min	: < 290	- cm3/1000 strokes : 8.0 - Check tolerance - cm3/1000s. : 12.0
FUEL DELIVERY CHA	ARACTERISTICS	
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1000 : 700	
cm3/1000 strokes	: 184.0	$\overline{\downarrow}$ End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.04.96 Test oil : ISO 4113

Combination No. : 9 400 087 497

Injection pump

Pump designation : PES6P12OA12ORS3344 EP type number : 9 400 087 090

Governor

Governer design. : RQV350...1100PA1207 Governer no. : 9 420 080 379

Cust. part No. : 3355976

Customer—spec. information Customer : CUMMINS

Motor : 6 CTAA - 290

Power KW : 214.6

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 3.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.15
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 15.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 15.55 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 207.0

m3/1000 strokes : 20/.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s.

: + 4.0

Spreed

Tolerance

cm3/1000 strokes :

5.0

Check tolerance cm3/1000s.

: 9.0

Del. quantity cm3/1000 strokes : 44.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0	Del. quantity cm3/1000 strokes : 207.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER control Lever
GUIDE SLEEVE TRAVEL	+ position degree : 63.0 + tolerance degree : +- 4.0
Rated speed rpm : 1150 guide sleeve travel mm : 8.40 Tolerance mm : + 0.10	control lever position degree : 118.0 tolerance degree : +- 4.0 RATED SPEED
Rated speed rpm : 650 guide sleeve travel mm : 5.55 Tolerance mm : + 0.25	rack travel mm : 14.50 Rated speed rpm : 1150 Tolerance 1/min : + 5
Rated speed rpm : 350 guide sleeve travel mm : 1.55 Tolerance mm : + 0.25	rack travel mm : 4.00 Rated speed rpm : 1360 Tolerance 1/min : +- 15
Rated speed rpm : 500 guide sleeve travel mm : 4.05 Tolerance mm : + 0.25	rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1500
Rated speed rpm : 1400	LOW IDLE
guide sleeve travel mm : 10.55 Tolerance mm : + 0.25	control lever position degree : 69.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION -	control lever
Rated speed rpm : 1150	position degree : 14.0 tolerance degree : +- 4.0
Rack travel in mm: 16.50 Tolerance mm: + 1.30	Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 325 rack travel mm : 7.00 Tolerance mm : +- 0.10
Rated speed rpm : 1100 - Aneroid pressure - hPa : 1300 -	Rated speed rpm : 100
-	CRT mm min. :> 9.50

Rated speed rpm	: 375	Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 5.0
TORQUE CONTROL	-	
Rated speed rpm rack travel mm Tolerance mm	: 1100 - : 15.55 - : + 0.05 -	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity
Rated speed rpm rack travel mm Tolerance mm	: 700 : 15.95 : ← 0.05	cm3/1000 strokes : 125.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
ANEROID/ALTITUDE		
COMPENSATOR TEST	1	BREAKAWAY
SETTING Rated speed rpm Pressure hPa rack travel mm	: 1300	Rack travel in mm : 14.50 Rated speed rpm : 1150 Tolerance 1/min : +- 5
Tolerance mm	: + 0.05	CTARTING CHEL DELTHERY
MEASUREMENT		STARTING FUEL DELIVERY
Pressure hPa Rated speed rpm	: 500	- Rated speed rpm : 100 - rack travel mm : 20.00 - Tolerance mm : +- 1.00
Rated speed rpm	: 500	- Del. quantity - cm3/1000 strokes : 190.0
Pressure hPa rack travel mm Tolerance mm	: 2.75	- Tolerance - cm3/1000 strokes : + 10.0 - Check tolerance - cm3/1000S. : + 14.0
Pressure hPa rack travel mm Tolerance mm		
		- LOW IDLE
START CUT-OUT Rated speed rpm	: > 100	- Del. quantity - cm3/1000 strokes : 44.0 - Tolerance
Rated speed rpm	: < 270	cm3/1000 strokes : + 3.0 Check tolerance
Check speed 1/min Check	:> 80	- cm3/1000s. : +- 6.0 - Spreed - Tolerance
speed 1/min	: < 290	cm3/1000 strokes : 8.0 Check tolerance
FUEL DELIVERY CHA	RACTERISTICS +	cm3/1000s. : 12.0
Aneroid pressure hPa Rated speed rpm	: 1300 : 700	
Del. quantity cm3/1000 strokes	+	End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 12.04.96 Test oil : ISO 4113

Combination No. : 9 400 087 498

Injection pump

Pump designation : PES6P12OA12ORS3344 EP type number : 9 400 087 090

Governor

Governer design. : RQV350...1100PA1216 Governer no. : 9 420 080 380

Cust. part No. : 3355978

Customer—spec. information Customer : CUMMINS

Motor : 6 CTAA - 250

Power KW : 184.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 3.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.15
Tolerance mm : + 0.05
Check

Check

tolerance mm : + 0.10

Rack travel in mm: 15.50
Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 14.55
Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 184.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

: +- 4.0

Spreed

Tolerance

cm3/1000 strokes :

5.0

Check tolerance

cm3/1000s. : 9.0

Del. quantity cm3/1000 strokes : 44.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0	Del. quantity cm3/1000 strokes : 184.5 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER
	position degree : 63.0
GUIDE SLEEVE TRAVEL	tolerance degree : + 4.0
Rated speed rpm : 1150	control lever
guide sleeve	position degree : 117.0
travel mm : 8.40	tolerance degree : + 4.0
Tolerance mm : + 0.10 +	
Control consideration (CC)	RATED SPEED
Rated speed rpm : 650	rack travel mm : 13.50
guide steeve + travel mm : 5.55 +	rack travel mm : 13.50 Rated speed rpm : 1155
Tolerance mm : + 0.25	Tolerance 1/min : + 5
+	
Rated speed rpm : 350	rack travel mm : 4.00
guide sleeve + travel mm : 1.55 +	Rated speed rpm : 1350 Tolerance 1/min : + 15
Tolerance mm : + 0.25	Toterance Trimin : +- 15
Total alice man	rack travel mm : 0.50
Rated speed rpm : 500	Tolerance mm : + 0.50
guide sleeve	Rated speed rpm : 1500
travel mm : 4.05	
Tolerance mm : + 0.25	
Rated speed rpm : 1400 full file sleeve	LOW IDLE
travel mm : 10.55	
Tolerance mm : + 0.25	control lever
	position degree : 69.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION	
Rated speed rpm : 1150	control lever position degree : 14.0 tolerance degree : + 4.0
Rack travel in mm: 16.50	tolerance degree : +- 4.0
Tolerance mm : + 1.30	Testing:
	Rated speed rpm : 325
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 7.00
+	Tolerance mm : +- 0.10
Rated speed rpm : 1100	
Aneroid pressure	Rated speed rpm : 100
hPa : 1000	COT:
+	CRT mm min. : > 9.50

Rated speed rpm	; 375	Tolerance - cm3/1000 strokes : +- 2.0 - Check tolerance - cm3/1000s. : +- 5.0
TORQUE CONTROL		+
Rated speed rpm rack travel mm Tolerance mm	: 14.55	+ Aneroid pressure + hPa : - + Rated speed rpm : 500 + Del. quantity
		+ cm3/1000 strokes : 144.0
Rated speed rpm rack travel mm Tolerance mm	: 700 : 14.55	tolerance cm3/1000 strokes : + 1.0
Tolerance mm	: +- 0.05	+ Check tolerance + cm3/1000s. : + 4.0
ANEROID/ALTITUDE COMPENSATOR TEST		BREAKAWAY
SETTING		Rack travel in mm: 13.50 Rated speed rpm: 1155
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 14.55	Tolerance 1/min : +- 5
MEASUREMENT	0.05	STARTING FUEL DELIVERY
Pressure hPa	500	Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00
Rated speed rpm		+ Del. quantity
Rated speed rpm	: 500	+ cm3/1000 strokes : 190.0 + Tolerance
Pressure hPa	: 680	+ cm3/1000 strokes : + 10.0
rack travel mm Tolerance mm	: 0.85 : +- 0.15	Check tolerance : +- 14.0
Pressure hPa rack travel mm	: 0.30	‡
Tolerance mm	: + 0.10	LOW IDLE
CTADE CUE		+
START CUT-OUT		Del. quantity cm3/1000 strokes : 44.0
Rated speed rpm Rated speed rpm	: > 100 : < 255	Tolerance + cm3/1000 strokes : + 3.0
Check		+ Check tolerance + cm3/1000s. : + 6.0
speed 1/min Check	: > 80	+ Spreed + Tolerance
speed 1/min	: < 275	cm3/1000 strokes : 8.0 Check tolerance
FUEL DELIVERY CHA	ARACTERISTICS	cm3/1000s. : 12.0
Aneroid pressure		<u> </u>
hPa	: 1000	-
Rated speed rpm Del. quantity	: 700	1
cm3/1000 strokes	: 184.0	End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17.04.96 Edition : ISO 4113 Test oil

Combination No. : 9 400 087 499

Injection pump

Pump designation : PE6P110A720RS3289-1 EP type number : 0 411 816 795

Governor

Governer design. : RSV350...900P1A600 Governer no. : 9 420 082 331

Cust, part No. : 1371920

Customer-spec. information Customer : SCANIA : DS1193A Motor Power KW : 211.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

251.5 bar Tolerance bar : + 1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 3.35 : + 0.05 Tolerance mm Check tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-: 4

: 0-60-120-180-240 Phasing

: -300 Tolerance : +- 0.30

Check

tolerance *NW : +- 0.75

BASIC SETTING

850 Rated speed rpm :

Rack travel in mm: 12.35 : +- 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 168.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0

		→			
Spreed		+	control lever		
Tolerance		+	position degree	:	41.0
cm3/1000 strokes	: 4.0	4	tolerance degree		4.0
		1		•	
Check tolerance		1	control lever		
cm3/1000s.	; 7.5	1	position degree	•	91.0
CHO/ (OGGS)	, ,,,,	1	tolerance degree		
N-1		T	toterance degree	; +	4.0
Del. quantity	AF F	Ť			
cm3/1000 strokes	: 15.5	+			
Tolerance		+	ASSEMBLY GOVERNOR	SETT	ING
cm3/1000 strokes	: +- 2.5	+			
Check tolerance		+	Rated speed rpm	:	900
cm3/1000s.	: +- 5.0	+	rack travel mm	•	11.30
Spreed		1			
Tolerance		1	Rated speed rpm	•	929
cm3/1000 strokes	: 4.5	1	Tolerance 1/min	: +-	4
Check tolerance	• • • • • • • • • • • • • • • • • • • •	1	rack travel mm	• '	4.00
	: 7.5	T	I ack travet this	•	4.00
cm3/1000s.	: 7.5	T			0.50
		+	rack travel mm		0.50
		t	Tolerance mm		0.50
(B) SETTING OF IN	JECTION PUMP	+	Rated speed rpm	:	1000
WITH GOVERNOR		+			
		+	Rated speed rpm	:	901
		1	Rated speed rpm rack travel mm	:	11.30
		1	1 4011 01 470 0 11111	•	
GUIDE SLEEVE POSI	TION	1	Rated speed rpm	:	930
GOIDE SEEEAE LOST	1 7 0 14	T	Tolerance 1/min		4
Patrick amount sum	. 900	T			
Rated speed rpm	: 800	+	rack travel mm	:	4.00
		t			
Rack travel in mm		+	rack travel mm	:	0.50
Tolerance mm	: +- 0.20	+	Tolerance mm	: +	
		+	Rated speed rpm	:	1000
governor spring		+			
pre-tension		1	Rated speed rpm	:	902
click setting x	: 2.75	1	rack travel mm		11.30
ceron societing x		1		•	
		1	Rated speed rpm	•	931
FULL LOSS DELTAGES	Y AT FULL LOAD STOP	T	Tolerance 1/min	•	4
FOLL LOAD DELIVER	T AT FULL LOAD STOP	T			
- · · · · · · · · · · · · · · · · · · ·	252	Ť	rack travel mm	:	4.00
Rated speed rpm	: 850	+			
Aneroid pressure		†	rack travel mm	:	0.50
hPa	: 1200	+	Tolerance mm	: +-	0.50
Del. quantity		+	Rated speed rpm		1000
cm3/1000 strckes	: 168.0	+			
Tolerance		1	Rated speed rpm	:	903
cm3/1000 strokes	: +- 1.0	1	rack travel mm	•	11.30
Check tolerance		1		•	
		- T			070
	* 4- 4.0	1	Pated speed spm	•	
cm3/1000s.	: ← 4.0	+	Rated speed rpm	:	932
Spreed	: + 4.0	‡	Tolerance 1/min	: +-	4
Spreed Tolerance		‡		: : +-	_
Spreed Tolerance cm3/1000 strokes		+++++++++++++++++++++++++++++++++++++++	Tolerance 1/min rack travel mm	: : +-	4 4.00
Spreed Tolerance cm3/1000 strokes Check tolerance	: 4.0	+++++++++++++++++++++++++++++++++++++++	Tolerance 1/min rack travel mm	: +-	4.00 0.50
Spreed Tolerance cm3/1000 strokes		+++++++++++++++++++++++++++++++++++++++	Tolerance 1/min rack travel mm	: +-	4.00 0.50 0.50
Spreed Tolerance cm3/1000 strokes Check tolerance	: 4.0	+++++++++++++++++++++++++++++++++++++++	Tolerance 1/min rack travel mm	: +-	4.00 0.50
Spreed Tolerance cm3/1000 strokes Check tolerance	: 4.0	++++++	Tolerance 1/min rack travel mm rack travel mm Tolerance mm	: +-	4.00 0.50 0.50
Spreed Tolerance cm3/1000 strokes Check tolerance	: 4.0	++++++	Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm	: +-	4.00 0.50 0.50 1000
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 4.0	+++++++++++++++++++++++++++++++++++++++	Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm	: +-	4.00 0.50 0.50 1000 904
Spreed Tolerance cm3/1000 strokes Check tolerance	: 4.0	++++++++++	Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm	: +-	4.00 0.50 0.50 1000
Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 4.0	+++++++++++	Tolerance 1/min rack travel mm rack travel mm Tolerance mm Rated speed rpm	: +-	4.00 0.50 0.50 1000 904

	4.00		
rack travel mm :	0.50 - 0.50	ANEROID/ALTITUDE COMPENSATOR TEST	
Rated speed rpm :	905	SETTING	
rack travel mm :	11.30	Rated speed rpm : Pressure hPa :	1200
Rated speed rpm : Tolerance 1/min : H rack travel mm :	934 - 4 4.00	rack travel mm : Tolerance mm :	12.35 +- 0.05
rack travel mm :	0.50	MEASUREMENT	
Tolerance mm : + Rated speed rpm :	- 0.50 1000	rack travel mm :	- 500 9.95 ← 0.15
LOW IDLE	‡	Rated speed rpm :	500
control lever position degree : tolerance degree : +		rack travel mm :	200 11.60 +- 0.10
control lever position degree : tolerance degree : +			140 10.75 +- 0.05
totti antic acgi cc	į		
Setting point w/out b	+		
<u>-</u>	bumper spring +	FUEL DELIVERY CHARAC	CTERISTICS
Setting point w/out b	bumper spring +		CTERISTICS
Setting point w/out b Rated speed rpm : rack travel mm :	350 5.50 350 6.00	FUEL DELIVERY CHARAC Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes :	500
Setting point w/out b Rated speed rpm : rack travel mm : Testing: Rated speed rpm : rack travel mm :	350 5.50 350 6.00 - 0.10 2.00 395	FUEL DELIVERY CHARACE Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance	- 500 113.0
Setting point w/out b Rated speed rpm : rack travel mm : Testing: Rated speed rpm : rack travel mm : Tolerance mm : + rack travel mm : Rated speed rpm :	350 5.50 350 6.00 - 0.10 2.00 395	FUEL DELIVERY CHARACE Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance	- 500 113.0 +- 1.0
Setting point w/out be Rated speed rpm : rack travel mm : Testing: Rated speed rpm : rack travel mm : Tolerance mm : + rack travel mm : Rated speed rpm : Tolerance 1/min : + Rated speed rpm :	350 5.50 350 6.00 - 0.10 2.00 395 - 30	FUEL DELIVERY CHARACE Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance	500 113.0 +- 1.0 +- 4.0
Setting point w/out be Rated speed rpm : rack travel mm : Testing: Rated speed rpm : rack travel mm : Tolerance mm : + rack travel mm : Rated speed rpm : Tolerance 1/min : + Rated speed rpm :	350 5.50 350 6.00 - 0.10 2.00 395 - 30	FUEL DELIVERY CHARACT Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : STARTING FUEL DELIVE Rated speed rpm :	500 113.0 +- 1.0 +- 4.0
Setting point w/out be Rated speed rpm : rack travel mm : Testing: Rated speed rpm : rack travel mm : Tolerance mm : + rack travel mm : Rated speed rpm : Rated speed rpm : Tolerance 1/min : + Rated speed rpm : CRT mm min. : > TORQUE CONTROL Rated speed rpm : rack travel mm :	350 5.50 350 6.00 - 0.10 2.00 395 - 30	FUEL DELIVERY CHARACE Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : STARTING FUEL DELIVE Rated speed rpm : rack travel mm : Tolerance mm : Del. quantity cm3/1000 strokes :	500 113.0 +- 1.0 +- 4.0 ERY 100 20.00 +- 1.00
Setting point w/out be Rated speed rpm : rack travel mm : Testing: Rated speed rpm : rack travel mm : Tolerance mm : + rack travel mm : Rated speed rpm : Tolerance 1/min : + Rated speed rpm : CRT mm min. : > TORQUE CONTROL Rated speed rpm : rack travel mm :	350 5.50 350 6.00 - 0.10 2.00 395 - 30 100 19.00	FUEL DELIVERY CHARACE Aneroid pressure hPa : Rated speed rpm : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : STARTING FUEL DELIVE Rated speed rpm : rack travel mm : Tolerance mm Del. quantity	500 113.0 + 1.0 + 4.0 ERY 100 20.00 + 1.00 269.0

LOW IDLE

Del. quantity
cm3/1000 strokes : 15.5
Tolerance
cm3/1000 strokes : + 2.5
Check tolerance
cm3/1000s. : + 5.0
Spreed
Tolerance
cm3/1000 strokes : 4.5
Check tolerance
cm3/1000s. : 7.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 15,04,96 Edition Test oil : ISO 4113

Combination No. : 9 400 087 501

Injection pump

Pump designation : PES5P120A720LS7280 EP type number : 9 400 087 087

Governor

Governer design. : RQV300...950PA1249 : 9 420 080 389

Governer no.

Cust. part No. : 4750747302

Customer-spec. information : MBB Customer

: OM 449 LA-EURO I Motor

Power KW : 220.7

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C 2.0

: 1 417 413 047 Overflow valve

Inlet press. bar : 2.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 Tolerance bar

: 1 680 750 075 Test Lines

8.0 Outside diameter :

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 4.65 Tolerance mm : +- 0.05

Check

: + 0.10tolerance mm

Rack travel in mm: 21.00

Firing order : 1-3-5-4-2

: 0-72-144-216-288 Phasing

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.75 : + 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 263.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. 4.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s. 9.0

Del. quantity

cm3/1000 strokes : 17.0

Tolerance cm3/1000 strokes Check tolerance	·	Check tolerance cm3/1000s.	: +- 4.0
cm3/1000s. Spreed	: +- 6.0	Tolerance cm3/1000 strokes	: 5.0
Tolerance cm3/1000 strokes Check tolerance	: 8.0	Check tolerance cm3/1000s.	: 9.0
cm3/1000s.	: 12.0		
(B) SETTING OF IN	NJECTION PUMP	CONTROL LEVER control lever	
ATIU GOACUIAN		- position degree tolerance degree	
GUIDE SLEEVE TRAN	/EL -	- control lever	
Rated speed rpm guide sleeve		position degree tolerance degree	
travel mm Tolerance mm	: 7.80 : + 0.10	RATED SPEED	
Rated speed rpm guide sleeve	: 700	rack travel mm Rated speed rpm	: 12.70 : 995
travel mm Tolerance mm	: 5.45 : + 0.25	- Tolerance 1/min	; **** >
Rated speed rpm guide sleeve	: 300	rack travel mm Rated speed rpm Tolerance 1/min	: 1125
travel mm	: 0.75	-	
Tolerance mm	: +- 0.25	rack travel mm Tolerance mm	: +- 0.50
Rated speed rpm guide sleeve	: 500	- Rated speed rpm	: 1250
travel mm Tolerance mm	: 3.55 : +- 0.25	- LOW IDLE	
Rated speed rpm guide sleeve	: 1165	-	
travel mm Tolerance mm	: 9.45 : ← 0.25	control leverposition degreetolerance degree	
GUIDE SLEEVE POSI	TION	- control lever - position degree	: 18.0
Rated speed rpm	: 1120	tolerance degree	: + 4.0
Rack travel in mm Tolerance mm	: 16.50 : + 1.30	- Testing: -	
		 Rated speed rpm rack travel mm Tolerance mm 	: 300 : 5.30
FULL LOAD DELIVER	Y AT FULL LOAD STOP	- Tolerance mm -	: + 0.70
Rated speed rpm Aneroid pressure	4	Rated speed rpm	
hPa Del. quantity	: 1300	- CRT mm min.	: > 9.00
cm3/1000 strokes Tolerance	+	Rated speed rpm	: 325
cm3/1000 strokes	: + 1.0 +		

†	Check tolerance
TORQUE CONTROL	cm3/1000s. ; +- 5.0 Spreed
Rated speed rpm : 700	Tolerance cm3/1000 strokes : 8.0
rack travel mm : 13.75 Tolerance mm : + 0.05	Check tolerance cm3/1000s. : 12.0
Rated speed rpm : 950 rack travel mm : 13.75	Aneroid pressure hPa : -
Tolerance mm : + 0.05	Rated speed rpm : 500 Del. quantity
ANEROID/ALTITUDE	cm3/1000 strokes : 121.0 Tolerance
COMPENSATOR TEST	cm3/1000 strokes : +- 1.0 Check tolerance
SETTING	cm3/1000s. : +- 4.0 Spreed
Rated speed rpm : 500 + Pressure hPa : 1300 +	Tolerance cm3/1000 strokes : 5.0
Pressure hPa : 1300 + rack travel mm : 13.75 + Tolerance mm : + 0.05	Check tolerance cm3/1000s. : 9.0
MEASUREMENT	BREAKAWAY
Pressure hPa : -	40.70
Rated speed rpm : 500	Rack travel in mm : 12.70 Rated speed rpm : 995 Tolerance 1/min : + 5
Rated speed rpm : 500 + Pressure hPa : 800 +	Tolerance 1/min : +- 5
rack travel mm : 2.85 Tolerance mm : + 0.15	STARTING FUEL DELIVERY
Pressure hPa : 480 + rack travel mm : 0.90 +	Rated speed rpm : 100 Del. quantity
Tolerance mm : + 0.10	cm3/1000 strokes : 250.0 Tolerance
START CUT-OUT	cm3/1000 strokes : +- 10.0 Check tolerance
Rated speed rpm : > 100	cm3/1000s. : +- 14.0
Rated speed rpm : < 220	
Check speed 1/min : > 80	LOW IDLE
Check speed 1/min : < 240	Del. quantity cm3/1000 strokes : 17.0
FUEL DELIVERY CHARACTERISTICS	Tolerance cm3/1000 strokes : + 3.0
Aneroid pressure	Check tolerance cm3/1600S. : +- 6.0
hPa : 1300 + Rated speed rpm : 950 +	Spreed Tolerance
Del. quantity cm3/1000 strokes : 256.0	cm3/1000 strokes : 8.0 Check tolerance
Tolerance + cm3/1000 strokes : + 2.0	cm3/1000s. : 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 15.04.96 Test oil : ISO 4113 Combination No. : 9 400 087 502 Injection pump Pump designation : PES6P120A720LS7257 : -10 EP type number : 9 400 087 086 Governor Governer design. : RQV300...950PA1262 Governer no. : 9 420 080 394 Cust. part No. : 0260749902 Customer-spec. information Customer : MBB : OM 447 LA Motor Power KW : 301.6 TEST BENCH REQUIREMENTS Inlet line : 4.1 Test oil inlet temp. °C Tolerance °C : +- 2.0 Overflow valve : 1 417 413 047 Inlet press. bar : 2.0 Test nozzle holde : 1 688 901 105 assembly Opening pressure 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3 x length mm : 1000 3.0 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____ BEGINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar : + 1.0 Prestroke mm : 4.65
Tolerance mm : + 0.05 Tolerance mm Check tolerance mm : +- 0.10 Rack travel in mm : 21.00 : 6-2-4-1-5-Firing order Phasing : 0-60-120-180-240 BASIC SETTING Rated speed rpm : 600 Rack travel in mm: 14.65 Tolerance mm : \leftarrow 0.05 Del. quantity cm3/1000 strokes : 301.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 9.0

Del. quantity	+	Tolerance	
cm3/1000 strokes	: 17.0	cm3/1000 strokes	: +- 1.0
Tolerance	}	Check tolerance	
cm3/1000 strokes	: + 3.0 	cm3/1000s.	: +- 4.0
Check tolerance	1	Spreed	
cm3/1000s.	: +- 6.0	Tolerance	
Spreed	1	cm3/1000 strokes	: 5.0
Tolerance	\perp	Check tolerance	. 3.0
cm3/1000 strokes	: 8.0	cm3/1000s.	: 9.0
Check tolerance	1	· · · · · · · · · · · · · · · · · · ·	. ,
cm3/1000s.	: 12.0		
CM37 10003:			
	\mathbf{I}	CONTROL LEVER	
(B) SETTING OF IN	LIERTIAN DIMO	COMMON PEACH	
WITH GOVERNOR	VOECTION FORE	control lever	
WITH GOVERNOR	T		: 52.0
	T	position degree	
CHIEF OF FRIE TOAL	(P)	tolerance degree	: +- 4.0
GUIDE SLEEVE TRAV	/EL †	annama I. Jawa n	
-	1050	control lever	440.0
Rated speed rpm	: 1050 +	position degree	
guide sleeve	+	tolerance degree	: +- 4.0
travel mm	: 7.80		
Tolerance mm	: + 0.10	RATED SPEED	
	+		
Rated speed rpm	: 700 +	rack travel mm	
guide sleeve	+	Rated speed rpm	: 990
travel mm	: 5.45 	Tolerance 1/min	: +- 5
Tolerance mm	: + 0.25 +		
	+	rack travel mm	: 4.00
Rated speed rpm	: 300	Rated speed rpm	
guide sleeve		Tolerance 1/min	
travel mm	: 0.75	roter drice Triain	
Tolerance mm	+ 0.25	rack travel mm	: 0.50
rocerance min	· - 0.25	Tolerance mm	: +- 0.50
Detect speed pos	: 500 I		
Rated speed rpm	: 500	Rated speed rpm	: 1236
guide sleeve	. 7.25		
travel mm	3.25		
Tolerance mm	: ← 0.25	LOW TOUR	
- • • • • • • • • • • • • • • • • • • •	10/5	LOW IDLE	
Rated speed rpm	: 1165		
guide sleeve	†		
travel mm	: 9.45	control lever	
Tolerance mm	: +- 0.25 +	position degree	
	+	tolerance degree	: +- 4.0
			
GUIDE SLEEVE POSI	TION +	control lever	
	+	position degree	
Rated speed rpm	: 1120 +	tolerance degree	: +- 4.0
	+		
Rack travel in mm	·: 16.50 +	Testing:	•
Tolerance mm	: + 1.30 +	_	
	+	Rated speed rpm	: 300
		rack travel mm	
FULL LOAD DELIVER	Y AT FULL LOAD STOP	Tolerance mm	
TOEL LOTTO DELL'ICH	1		
Rated speed rpm	: 600	Rated speed rpm	: 100
Aneroid pressure	1	opeca i piii	, , , , , ,
hPa	: 1400	CRT mm min.	: > 8.50
nra Del. quantity	· 1700	OIVE USH HEITE	0.50
cm3/1000 strokes	: 301.5	Rated speed rpm	: 325
CIID/ FOUL STRUKES	. 301.3	waren sheen thu	. 363

	+ Del. quantity
TORQUE CONTROL	Tolerance cm3/1000 strokes : 204.3 Tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 Aneroid pressure hPa : 1400 Rated speed rpm : 750 Del. quantity cm3/1000 strokes : 293.0
Rated speed rpm : 600	cm3/1000 strokes : +- 2.0 Check tolerance
Rated speed rpm : 600 rack travel mm : 14.65	+ cm3/1000s. : +- 5.0
Tolerance mm : +- 0.05	Spreed
roter direc inni	Tolerance
Rated speed rpm : 950	+ cm3/1000 strokes : 8.0
rack travel mm : 14.65	+ Check tolerance
Tolerance mm : \leftarrow 0.05	+ cm3/1000s. : 12.0
	†
Rated speed rpm : 750	Aneroid pressure
rack travel mm : 14.65	hPa : 1400
Tolerance mm : + 0.05	+ Rated speed rpm : 750 + Del. quantity
ANEROID/ALTITUDE	Tolerance
COMPENSATOR TEST	- cm3/1000 strokes : +- 2.0
	Check tolerance
	0m7/1000s . + 5.0
SETTING	+ Spreed
Date to a second on the second of the second	Spreed Tolerance cm3/1000 strokes: 8.0 Check tolerance cm3/1000s.: 12.0 Aneroid pressure hPa: - Rated speed rpm: 500 Del. quantity cm3/1000 strokes: 146.5 Tolerance
Rated speed rpm : 500	cm3/1000 strokes : 8.0
Pressure hPa : 1400 rack travel mm : 14.65	+ Check tolerance + cm3/1000s. : 12.0
Tolerance mm : + 0.05	T (m5/10008. : 12.0
roterance and o.os	Aneroid pressure
MEASUREMENT	hPa : -
	Rated speed rpm : 500
Pressure hPa : -	+ Del. quantity
Rated speed rpm : 500	+ cm3/1000 strokes : 146.5
	† Tolerance
Rated speed rpm : 500	+ cm3/1000 strokes : +- 1.0
Pressure hPa : 1000	+ Check tolerance + cm3/1000s. : +- 4.0
Pressure hPa : 1000 rack travel mm : 2.75	Spreed 4.0
Tolerance mm : + 0.15	Tolerance
10th alto line	- cm3/1000 strokes : 5.0 6
Pressure hPa : 660	- Check tolerance
rack travel mm : 1.00	+ cm3/1000s. : 9.0
Tolerance mm : +- 0.10	+
	DDDAVANAV
START CUT-OUT	BREAKAWAY
START COT OUT	
Rated speed rpm : > 100	Rack travel in mm: 13.60
Rated speed rpm : < 220	Rated speed rpm : 990
	+ Tolerance 1/min : +- 5
Check	+
speed 1/min :> 80	†
Check speed 1/min : < 240	STARTING FUEL DELIVERY
speed 1/min : < 240	T STAKITING FUEL DELIVER!
	Rated speed rpm : 100
FUEL DELIVERY CHARACTERISTICS	Del. quantity
	+ cm3/1000 strokes : 265.0
Aneroid pressure	Tolerance
hPa : 1400	+ cm3/1000 strokes : +- 10.0
Rated speed rpm : 950	+

D10

Check tolerance		
cm3/1000s.	: +	14.0

LOW IDLE

Del. quantity cm3/1000 strokes	:	17.0
Tolerance		7.0
cm3/1000 strokes Check tolerance	; +	3.0
cm3/1000S.	; +-	6.0
Spreed	•	
Tolerance cm3/1000 strokes	•	8.0
Check tolerance	ŧ	0.0
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 17.04.96 Test oil : ISO 4113

Combination No. : 9 400 087 503

Injection pump

Pump designation : PES5P120A720LS7280 EP type number : 9 400 087 087

Governor

Governer design. : RQV300...950PA1263

Governer no. : 9 420 080 392

Cust. part No. : 0270740102

Customer-spec. information Customer : MBB

Motor : OM 449 LA-EURO I

Power KW : 206.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.65
Tolerance mm : + 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 21.00

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 13.45
Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 246.0

Tolerance cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s. : 9.0

Del. quantity

cm3/1000 strokes : 11.5

Tolerance +	Check tolerance
cm3/1000 strokes : +- 3.0	cm3/1000s. : +- 4.0
Check tolerance	Spreed
cm3/1000s. : +- 6.0	Tolerance
Spreed	cm3/1000 strokes : 5.0
Tolerance	Check tolerance
cm3/1000 strokes : 8.0	cm3/1000s. : 9.0
Check tolerance	
cm3/1000s. : 12.0	
1	CONTROL LEVER
(B) SETTING OF INJECTION PUMP	47 57 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
WITH GOVERNOR	control lever
	position degree : 52.0
	tolerance degree : + 4.0
GUIDE SLEEVE TRAVEL	
1	control lever
Rated speed rpm : 1050	position degree : 117.0
guide sleeve	tolerance degree : + 4.0
travel mm : 7.80	
Tolerance mm : + 0.10	RATED SPEED
4	
Rated speed rpm : 700	rack travel mm : 12.10
guide sleeve	Rated speed rpm : 1005
travel mm : 5.45	Tolerance 1/min : + 5
Tolerance mm : + 0.25	
1	rack travel mm : 4.00
Rated speed rpm : 300	Rated speed rpm : 1125
guide sleeve	Tolerance 1/min : + 15
travel mm : 0.75	
Tolerance mm : + 0.25	rack travel mm : 0.50
1	Tolerance mm : + 0.50
Rated speed rpm : 500	Rated speed rpm : 1220
guide sleeve	
travel mm : 3.55	
Tolerance mm : + 0.25	
+	LOW IDLE
Rated speed rpm : 1165	
guide steeve +	
travel mm : 9.45 +	control lever
Tolerance mm : + 0.25 +	position degree : 83.0
+	tolerance degree : + 4.0
GUIDE SLEEVE POSITION +	control lever
+	position degree : 18.0
Rated speed rpm : 1120 +	tolerance degree : + 4.0
+	
Rack travel in mm: 16.50 +	Testing:
Tolerance mm : + 1.30 +	
+	Rated speed rpm : 300
	rack travel mm : 5.30 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
+	200
Rated speed rpm : 600 +	Rated speed rpm : 100
Aneroid pressure	ADT - 4.
hPa : 1200	CRT mm min. :> 8.00
Del. quantity	D 1 1 200
cm3/1000 strokes : 246.0	Rated speed rpm : 325
Tolerance	
cm3/1000 strokes : + 1.0 +	

		+ Check + speed 1/min : < 240
TORQUE CONTROL		Speed William . 240
Rated speed rpm rack travel mm Tolerance mm	: 600 : 13.45 : + 0.05	FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa : 1200
Rated speed rpm rack travel mm	: 950 : 13.15	Rated speed rpm : 950 Del. quantity
Tolerance mm	: +- 0.05	- cm3/1000 strokes : 232.5 - Tolerance
Rated speed rpm rack travel mm	: 13.15	cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0
Tolerance mm Rated speed rpm	: 750	t cm3/1000s. : + 5.0 Spreed Toterance
rack travel mm Tolerance mm		cm3/1000 strokes : 8.0 Check tolerance
Rated speed rpm		cm3/1000s. : 12.0
rack travel mm Tolerance mm		Aneroid pressure hPa : 1200 Rated speed rpm : 750 Del. quantity
ANEROID/ALTITUDE COMPENSATOR TEST		cm3/1000 strokes : 243.0 Tolerance
		+ cm3/1000 strokes : +- 2.0 + Check tolerance
SETTING	500	+ cm3/1000s. : + 5.0 + Spreed
Rated speed rpm Pressure hPa rack travel mm	: 1200 : 13.45	Tolerance cm3/1000 strokes : 8.0 Check tolerance
Tolerance mm	: +- 0.05	+ cm3/1000s. : 12.0
MEASUREMENT		+ Aneroid pressure + hPa : -
Pressure hPa Rated speed rpm	500	Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 149.5
Rated speed rpm		Tolerance + cm3/1000 strokes : +- 1.0
Pressure hPa rack travel mm Tolerance mm	: 700 : 1.75 : ← 0.15	+ Check tolerance - cm3/1000s. : + 4.0 - Spreed
Pressure hPa rack travel mm	: 500 : 0.60	Tolerance cm3/1000 strokes : 5.0 Check tolerance
Tolerance mm	: + 0.10	cm3/1000s. : 9.0
START CUT-OUT		BREAKAWAY
Rated speed rpm Rated speed rpm	: > 100 : < 220	Rack travel in mm : 12.10 Rated speed rpm : 1005
Check speed 1/min	: > 80	+ Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

100 Rated speed rpm

Del. quantity cm3/1000 strokes : 265.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : +- 14.0

LOW IDLE

Del. quantity cm3/1000 strokes : 11.5 Tolerance 3.0

cm3/1000 strokes : +-

Check tolerance cm3/1000s. 6.0 Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15,04,96 Test oil : ISO 4113

Combination No. : 9 400 087 505

Injection pump

Pump designation : PE6P110A720RS3289-1 EP type number : 0 411 816 795

Governor

Governer design. : RSV350...1100P1A626

Governer no. : 9 420 082 332

Cust. part No. : 1377813

Customer-spec. information Customer : SCANIA : DS1192A Motor Power KW : 186.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

: 251.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.35
Tolerance mm : + 0.05 : +- 0.05 Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Beginning of delivery differende

and maximum rack

10.50 travel Tolerance mm : + 1.50 Difference CS : 2.00

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 11.25 : +- 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 145.0

Tolerance cm3/1000 strokes : + 1.0	t control lever position degree : 49.0
Check tolerance cm3/1000s. : +- 4.0	tolerance degree : + 4.0
Spreed Tolerance cm3/1000 strokes : 4.0	control lever position degree : 99.0 tolerance degree : + 4.0 RATED SPEED
Check tolerance cm3/1000s. : 7.5	rack travel mm : 10.20 Rated speed rpm : 950
Del. quantity cm3/1000 strokes : 8.5 Tolerance	Tolerance 1/min : + 5
cm3/1000 strokes : +- 2.5 Check tolerance	rack travel mm : 4.00 Rated speed rpm : 995 Tolerance 1/min : + 15
cm3/1000s. : +- 5.0 Spreed	rack travel mm : 0.85
Tolerance	+ Tolerance mm : +- 0.55
cm3/1000 strokes : 4.5	Rated speed rpm : 1070
Check tolerance cm3/1000s. : 7.5	ASSEMBLY GOVERNOR SETTING
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 750 rack travel mm : 11.30
	Rated speed rpm : 788 Tolerance 1/min : +- 4 rack travel mm : 4.00
GUIDE SLEEVE POSITION	+
Rated speed rpm : 800	+ rack travel mm : 0.50 + Tolerance mm : + 0.50 + Rated speed rpm : 850
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Rated speed rpm : 751 rack travel mm : 11.30
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 900	Rated speed rpm : 789 Tolerance 1/min : +- 4 rack travel mm : 4.00
Aneroid pressure hPa : 700 Del. quantity cm3/1000 strokes : 145.0	rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 850
Tolerance cm3/1000 strokes : +- 1.0 Check tolerance	Rated speed rpm : 752 rack travel mm : 11.30
cm3/1000s. : +- 4.0 Spreed	Rated speed rpm : 790
Tolerance cm3/1000 strokes : 4.0	Tolerance 1/min : + 4 rack travel mm : 4.00
Check tolerance cm3/1000s. : 7.5	rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 850
CONTROL LEVER	Rated speed rpm : 753 rack travel mm : 11.30

Rated speed rpm Tolerance 1/min rack travel mm	: 791 : + 4 : 4.00
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : + 0.50 : 850
Rated speed rpm rack travel mm	: 754 : 11.30
Rated speed rpm Tolerance 1/min rack travel mm	: 792 : + 4 : 4.00
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : ← 0.50 : 850
Rated speed rpm rack travel mm	
Rated speed rpm Tolerance 1/min rack travel mm	: 793 : +- 4 : 4.00
rack travel mm Tolerance mm Rated speed rpm	: 0.50 : +- 0.50 : 850
THE POPULATION OF THE PROPERTY	. 050
LOW IDLE	
	: 74.0
LOW IDLE control lever position degree	: 74.0 : + 4.0
LOW IDLE control lever position degree tolerance degree control lever position degree	: 74.0 : + 4.0 : 24.0 : + 4.0
LOW IDLE control lever position degree tolerance degree control lever position degree tolerance degree	: 74.0 : + 4.0 : 24.0 : + 4.0
LOW IDLE control lever position degree tolerance degree control lever position degree tolerance degree Setting point w/o Rated speed rpm	: 74.0 : + 4.0 : 24.0 : + 4.0 sut bumper spring : 350
LOW IDLE control lever position degree tolerance degree control lever position degree tolerance degree Setting point w/o Rated speed rpm rack travel mm	: 74.0 : + 4.0 : 24.0 : + 4.0 sut bumper spring : 350
control lever position degree tolerance degree control lever position degree tolerance degree tolerance degree Setting point w/o Rated speed rpm rack travel mm Testing: Rated speed rpm rack travel mm	: 74.0 : + 4.0 : 24.0 : + 4.0 sut bumper spring : 350 : 4.50 : 5.00 : + 0.10 : 2.00 : 430

TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 900 : 11.25 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 600 : 11.30 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 700 : 11.25 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm	: - : 500
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 200 : 1.10 : ← 0.10
Pressure hPa rack travel mm Tolerance mm	: 150 : 0.35 : ← 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 700 : 600
Del. quantity cm3/1000 strokes	: 148.5
Tolerance cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000S.	: +- 5.0
Aneroid pressure	
hPa Rated speed rpm	500

CRT mm min. : > 19.00

Del. quantity cm3/1000 strokes : 116.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 4.0 BREAKAWAY 10.20 Rack travel in mm : Rated speed rpm : Tolerance 1/min STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 20.00 : +- 1.00 Tolerance mm Del. quantity cm3/1000 strokes : 255.0 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0 LOW IDLE Del. quantity cm3/1000 strokes : 8.5 Tolerance cm3/1000 strokes 2.5 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. 7.5 End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17.04.96 Edition Test oil : ISO 4113

Combination No. : 9 400 087 506

Injection pump

Pump designation : PES6P120A320/3RS3365 EP type number : 9 400 087 092

Governor

Governer design. : RSV450...900P1A628

Governer no. : 9 420 082 333

Cust. part No. :

Customer-spec. information Customer : CUMMINS : 6CTAAG Motor Power KW : 240.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm : +- 0.05 Tolerance mm Check

: + 0.10tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5- 3- 6- 2-

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 11.85 : + 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 262.0

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s. : 9.0

Del. quantity cm3/1000 strokes	: 18.0	ASSEMBLY GOVERNO	R SETTING
Tolerance cm3/1000 strokes		Rated speed rpm rack travel mm	: 942 : 10.80
Check tolerance cm3/1000s. Spreed	: ← 6.0	Rated speed rpm Tolerance 1/min	
Tolerance cm3/1000 strokes	: 8.0	rack travel mm	: 4.00 : 0.50
Check tolerance cm3/1000s.	: 12.0	rack travel mm Tolerance mm Rated speed rpm	+ 0.50 1030
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP	Rated speed rpm rack travel mm	
		Rated speed rpm Tolerance 1/min	: 983 : + 4
GUIDE SLEEVE POSIT	TION	rack travel mm	: 4.00
Rated speed rpm	: 800	rack travel mm Tolerance mm	: 0.50 : + 0.50
Rack travel in mm Tolerance mm	: 0.50 : + 0.20	Rated speed rpm	: 1030
governor spring pre-tension		+ Rated speed rpm rack travel mm	: 944 : 10.80
click setting x	: 5.75	Rated speed rpm Tolerance 1/min rack travel mm	: 984 : + 4 : 4.00
FULL LOAD DELIVERY	AT FULL LOAD STOP	rack travel mm	: 0.50
Rated speed rpm Aneroid pressure hPa	: 900	Tolerance mm Rated speed rpm	+ 0.50 1030
Del. quantity cm3/1000 strokes	: 262.D	Rated speed rpm rack travel mm	: 945 : 10.80
Tolerance cm3/1000 strokes Check_tolerance	: +- 1.0	Rated speed rpm Tolerance 1/min	: 985 : +- 4
cm3/1000s. Spreed	: +- 4.0	rack travel mm	: 4.00
Tolerance cm3/1000 strokes Check tolerance	: 5.0	rack travel mm Tolerance mm Rated speed rpm	: 0.50 : + 0.50 : 1030
cm3/1000s.	9.0	Rated speed rpm	: 946
		rack travel mm	10.80
CONTROL LEVER		Rated speed rpm Tolerance 1/min rack travel mm	986 + 4 4.00
position degree	: 59.0 : +- 4.0	rack travel mm	: 0.50
control lever	• 180 A	+ Tolerance mm + Rated speed rpm	: + 0.50 : 1030
position degree tolerance degree	: 109.0 : +- 4.0	Rated speed rpm rack travel mm	: 947 : 10.80

Rated speed rpm : 987
Tolerance 1/min : + 4
rack travel mm : 4.00

LOW IDLE

control lever position degree : 81.0 tolerance degree : +- 4.0

control lever position degree : 31.0 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 450 rack travel mm : 4.00

Testing:

Rated speed rpm : 450 rack travel mm : 4.50 Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 485
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 900 rack travel mm : 11.85 Tolerance mm : + 0.05

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00

Del. quantity
cm3/1000 strokes : 302.0
Tolerance
cm3/1000 strokes : +- 10.0
Check tolerance
cm3/1000s. : +- 14.0

LOW IDLE

Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 01.12.95 Test oil : ISO 4113

Combination No. : 9 400 030 723

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1100A0C838R

Governer no. : 9 420 034 708

Cust. part No. :

Customer-spec. information Customer : CUMMINS

Customer : CUMMINS
Motor : 6BT - 148 HP

TEST BENCH REQUIREMENTS

Inlet line : 1.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50
Tolerance mm: + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.10 Tolerance mm : + 0.05

Rated speed rpm : 475

Rack travel in mm: 5.80

(B) SETTING OF INJECTION PUMP

WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in m Tolerance mm governor spring pre-tension click setting x	: +- 0.20
CONTROL LEVER	
control lever position degree tolerance degree	: 104.0 : + 4.0
RATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: 11.00 : 1135 : + 5
rack travel mm Rated speed rpm Tolerance 1/min	
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1290
rack travel mm Rated speed rpm	
LOW IDLE	
control lever position degree tolerance degree	: 82.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm rack travel mm	: 475 : 5.30
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 475 : 5.80 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 565 : + 30
Rated speed rpm	: 100
CRT mm min.	: > 19.50

: 1100 : 12.10 : + 0.05
: 800 : 12.80 : + 0.05
: 800
: 500 : 10.70 : + 0.10
: 700 : 12.50 : ← 0.20
: 560 : 12.00 : + 0.20
: 11.00 : 1135 : ← 5
EVERY
: 100 : 20.25 : ← 0.75

Rated speed rpm : 475 rack travel mm : 5.80

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.04.96 Test oil : ISO 4113

Combination No. : 9 400 030 751

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1050A0c866R

Governer no. : F 002 A20 202

Cust. part No. : 393 0158

Customer-spec. information
Customer : CUMMINS
Motor : 6BT
Power KW : 94.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.50

Tolerance : + 0.10

Check

tolerance °NW : + 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.00 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 86.1	Check tolerance cm3/1000S. : 6.5
Tolerance cm3/1000 strokes : +- 1.0	
Check tolerance cm3/1000s. : + 3.0	CONTROL LEVER control lever
Spreed	position degree : 105.0 tolerance degree : +- 4.0
Tolerance cm3/1000 strokes : 4.0	RATED SPEED
Check tolerance cm3/1000s. : 6.5	rack travel mm : 11.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5
Del. quantity cm3/1000 strokes : 18.6	rack travel mm : 4.00 Rated speed rpm : 1190
cm3/1000 strokes : + 2.0 + Check tolerance	Toterance 1/min : +- 15
cm3/1000s. : + 4.5 Spreed Tolerance	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1280
cm3/1000 strokes : 6.0 + Check tolerance	rack travel mm : 4.00
cm3/1000s. : 8.0	Rated speed rpm : 1200
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
	control lover
GUIDE SLEEVE POSITION	control lever position degree : 87.0
GUIDE SLEEVE POSITION Rated speed rpm : 800	position degree : 87.0 tolerance degree : + 4.0
Rated speed rpm : 800 Rack travel in mm : 0.50	position degree : 87.0 tolerance degree : + 4.0 Setting point w/out bumper spring
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20	position degree : 87.0 tolerance degree : + 4.0
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	position degree : 87.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 475
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	position degree : 87.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 6.10 Testing: Rated speed rpm : 475
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	position degree : 87.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 6.10 Testing:
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050	position degree : 87.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 6.10 Testing: Rated speed rpm : 475 rack travel mm : 6.60 Tolerance mm : + 0.10 rack travel mm : 2.00
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 800	position degree : 87.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 6.10 Testing: Rated speed rpm : 475 rack travel mm : 6.60 Tolerance mm : + 0.10
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 800 Del. quantity cm3/1000 strokes : 86.1	position degree : 87.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 6.10 Testing: Rated speed rpm : 475 rack travel mm : 6.60 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 610
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 800 Del. quantity cm3/1000 strokes : 86.1 Tolerance cm3/1000 strokes : + 1.0	position degree : 87.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 6.10 Testing: Rated speed rpm : 475 rack travel mm : 6.60 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 610 Tolerance 1/min : + 30
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 800 Del. quantity cm3/1000 strokes : 86.1 Tolerance	position degree : 87.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 6.10 Testing: Rated speed rpm : 475 rack travel mm : 6.60 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 610 Tolerance 1/min : + 30 Rated speed rpm : 100

rack travel mm 12.00 : +- 0.05 Tolerance mm 800 Rated speed rpm 12,60 rack travel mm : +- 0.10 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING 650 Rated speed rpm 800 Pressure hPa **MEASUREMENT** Pressure hPa 650 Rated speed rpm 11.75 rack travel mm : + 0.10Tolerance mm Rated speed rpm 650 Pressure hPa 550 12.50 rack travel mm : +- 0.20 Tolerance mm 475 Pressure hPa : 12.15 rack travel mm : +- 0.20 Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 800 Rated speed rpm 008 Del. quantity 97.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. 4.0 Aneroid pressure hPa 500 Rated speed rpm Del. quantity cm3/1000 strokes : 82.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance

3.0

: +--

BREAKAWAY Rack travel in mm : 11.00 Rated speed rpm : 1095 Tolerance 1/min STARTING FUEL DELIVERY Rated speed rpm 100 20.50 rack travel mm : **←** 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 121.0 Tolerance cm3/1000 strokes : + 10.0Check tolerance cm3/1000s. : +- 15.0 LOW IDLE Del. quantity cm3/1000 strokes : 18.6 Tolerance cm3/1000 strokes 2.0 : +-Check tolerance cm3/1000s. 4.5 : +-Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 8.0

End of test specification sheet

cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.04.96 Test oil : ISO 4113

Combination No. : 0 402 736 874

Injection pump

Pump designation : PES6P120A120RS7353 EP type number : 0 412 726 924

Governor

Governer design. : RQV350...1100PA1179K

Governer no. : 0 421 815 445

Cust. part No. : 3928151

Customer-spec. information Customer : CDC Motor : 6CTA-A Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 4.00
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Start of delivery blocking

*NW after s.o.d. : 5.25 Tolerance : + 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.85
Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes	: 186.0	<u> </u>
Tolerance cm3/1000 strokes	: +- 1.0	FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100
Check tolerance	· T · I · U	+ Rated speed rpm : 1100 + Aneroid pressure + hPa : 1200
cm3/1000S.	: +- 4.0	Del. quantity cm3/1000 strokes : 186.0
Spreed Tolerance cm3/1000 strokes	: 5.0	Tolerance cm3/1000 strokes : + 1.0 Check tolerance
Check tolerance cm3/1000s.	: 9.0	cm3/1000s. : +- 4.0 Spreed Tolerance
Del. quantity		cm3/1000 strokes : 5.0 Check tolerance
cm3/1000 strokes Tolerance	•	- cm3/1000s. : 9.0
cm3/1000 strokes Check tolerance cm3/1000s.	: +- 5.0	CONTROL LEVER
Spreed Tolerance cm3/1000 strokes	: 8.0	control lever position degree : 115.0
Check tolerance cm3/1000s.	: 8.0	tolerance degree : + 6.0
	•	RATED SPEED
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP -	rack travel mm : 11.70 Rated speed rpm : 1260 Tolerance 1/min : + 15
GUIDE SLEEVE TRAVI	EL -	rack travel mm : 4.00 Rated speed rpm : 1385
Rated speed rpm guide sleeve	: 350	Tolerance 1/min : + 5
travel mm Tolerance mm	: 2.11 : + 0.20	rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1450
Rated speed rpm guide sleeve	: 1159	
travel mm Tolerance mm	: 7.79 : + 0.15	LOW IDLE
Rated speed rpm guide sleeve	: 726	control lever
travel mm Tolerance mm	: 4.80 : + 0.25	position degree : 67.0 tolerance degree : + 6.0
Rated speed rpm guide sleeve	: 420	Testing:
travel mm Tolerance mm	: 3.10 : ← 0.25	Rated speed rpm : 350 - rack travel mm : 6.00 - Tolerance mm : +- 0.20
Rated speed rpm guide sleeve	: 1640	Rated speed rpm : 275
travel mm Tolerance mm	: 13.50 : + 0.50	CRT mm min. :> 7.90

Rated speed rpm	: 425	+ Rated speed rpm : 650 + Del. quantity
TORQUE CONTROL		+ cm3/1000 strokes : 166.5 + Tolerance
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 12.85 : + 0.05	- cm3/1000 strokes : + 3.0 - Check tolerance - cm3/1000s. : + 6.0 - Spreed
Rated speed rpm rack travel mm Tolerance mm	: 11.80	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
Rated speed rpm rack travel mm Tolerance mm	: 1200 : 12.80 : + 0.10	Aneroid pressure hPa : - Rated speed rpm : 1100 Del. quantity cm3/1000 strokes : 90.5
ANEROID/ALTITUDE COMPENSATOR TEST		Tolerance : + 1.0 Check tolerance cm3/1000s. : + 3.0
SETTING		
Rated speed rpm Pressure hPa	: 1100 : 1200	BREAKAWAY
MEASUREMENT		Rack travel in mm: 11.70
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 1100 : 8.90 : + 0.20	Rated speed rpm : 1260 Tolerance 1/min : + 15
Rated speed rpm		+ STARTING FUEL DELIVERY
Pressure hPa rack travel mm Tolerance mm	: 520 : 11.50	Rated speed rpm : 100 + rack travel mm : 11.00 + Tolerance mm : + 0.50 + Del. quantity + cm3/1000 strokes : 180.0
Pressure hPa rack travel mm Tolerance mm	: 255 : 9.70 : + 0.05	+ cm3/1000 strokes : 180.0 + Tolerance + cm3/1000 strokes : + 20.0 Check tolerance + cm3/1000s. : + 25.0
START CUT-OUT		 ‡
Rated speed rpm Rated speed rpm	: > 100 : < 290	LOW IDLE
Check speed 1/min Check	:> 80	Del. quantity cm3/1000 strokes : 23.0 Tolerance cm3/1000 strokes : + 3.0
speed 1/min	: < 300	- Check tolerance
FUEL DELIVERY CHA	RACTERISTICS	
Aneroid pressure hPa	: 1200	cm3/1000 strokes : 8.0

E03

Check tolerance cm3/1000s.	;		12.0		
		į			

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 15.04.96 Edition : ISO 4113 Test oil

Combination No. : 9 400 030 735

Injection pump

Pump designation : PES6A95D320/3RS2881 EP type number : 9 410 037 215

Governor

Governer design. : RSV500...1100A0C848R

Governer no. : 9 420 034 714

Cust. part No. : 3929411

Customer-spec. information Customer : CDC Motor : 6BT : 82.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm 2.85 : + 0.05 Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300 : +- 0.50

Tolerance Check

tolerance °NW : + - 0.75

Start of delivery blocking

"NW after s.o.d. : 7.50 : +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 9.65 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 76.0

Tolerance	
cm3/1000 strokes : + 1.0 +	
	CONTROL LEVER
Check tolerance	
cm3/1000s. : +- 3.0 +	control lever
	position degree : 96.0
Spreed +	tolerance degree : +- 4.0
Tolerance +	
cm3/1000 strokes : 4.0 +	RATED SPEED

Check tolerance	rack travel mm : 8.50
cm3/1000s. : 6.5	Rated speed rpm : 1165
†	Tolerance 1/min : +- 5
Del. quantity	
cm3/1000 strokes : 18.5	rack travel mm : 4.50
Tolerance +	Rated speed rpm : 1215
cm3/1000 strokes : + 2.0 +	Tolerance 1/min : + 5
Check tolerance	made denoted mm at 0.05
cm3/1000s. : + 4.5	rack travel mm : 0.85
Spreed	Tolerance mm : + 0.55
Tolerance +	Rated speed rpm : 1300
cm3/1000 strokes : 6.0	rack travel mm : 4.50
Check tolerance + cm3/1000s. : 8.0	
cm3/1000s. : 8.0	Rated speed rpm : 1215
T	
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	LOW IDLE
ATIU GOAEKINOK	FOM TOFF
<u>.</u>	
İ	
	control leven
GUIDE SLEEVE POSITION	control lever
GUIDE SLEEVE POSITION	position degree : 82.0
+	
GUIDE SLEEVE POSITION Rated speed rpm : 800	position degree : 82.0 tolerance degree : + 4.0
Rated speed rpm : 800	position degree : 82.0
Rated speed rpm : 800 Rack travel in mm : 0.50	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring
Rated speed rpm : 800	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60 Testing:
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60 Testing: Rated speed rpm : 500
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60 Testing: Rated speed rpm : 500 rack travel mm : 500 rack travel mm : 5.10
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60 Testing: Rated speed rpm : 500
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60 Testing: Rated speed rpm : 500 rack travel mm : 5.10 Tolerance mm : + 0.10
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60 Testing: Rated speed rpm : 500 rack travel mm : 5.10 Tolerance mm : + 0.10
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60 Testing: Rated speed rpm : 500 rack travel mm : 5.10 Tolerance mm : + 0.10 Rated speed rpm : 100
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : -	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60 Testing: Rated speed rpm : 500 rack travel mm : 5.10 Tolerance mm : + 0.10 Rated speed rpm : 100
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60 Testing: Rated speed rpm : 500 rack travel mm : 5.10 Tolerance mm : + 0.10 Rated speed rpm : 100
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : - Del. quantity	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60 Testing: Rated speed rpm : 500 rack travel mm : 5.10 Tolerance mm : + 0.10 Rated speed rpm : 100
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : Del. quantity cm3/1000 strokes : 76.0	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60 Testing: Rated speed rpm : 500 rack travel mm : 5.10 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : Del. quantity cm3/1000 strokes : 76.0 Tolerance	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60 Testing: Rated speed rpm : 500 rack travel mm : 5.10 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : +- 1.0	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60 Testing: Rated speed rpm : 500 rack travel mm : 5.10 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 9.65
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : +- 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60 Testing: Rated speed rpm : 500 rack travel mm : 5.10 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm : 1100
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60 Testing: Rated speed rpm : 500 rack travel mm : 5.10 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 9.65 Tolerance mm : + 0.05
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60 Testing: Rated speed rpm : 500 rack travel mm : 5.10 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 9.65 Tolerance mm : + 0.05 Rated speed rpm : 800
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60 Testing: Rated speed rpm : 500 rack travel mm : 5.10 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 9.65 Tolerance mm : + 0.05 Rated speed rpm : 800 rack travel mm : 10.40
Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.00 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1100 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 76.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 4.0	position degree : 82.0 tolerance degree : + 4.0 Setting point w/out bumper spring Rated speed rpm : 500 rack travel mm : 4.60 Testing: Rated speed rpm : 500 rack travel mm : 5.10 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 9.65 Tolerance mm : + 0.05 Rated speed rpm : 800

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 800 Rated speed rpm

Del. quantity cm3/1000 strokes : 83.0

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

4.0 cm3/1000s.

BREAKAWAY

Rack travel in mm: 8,50 Rated speed rpm 1165 Tolerance 1/min

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 20.50 Tolerance mm : **←** 0.50

Del. quantity

cm3/1000 strokes : 120.5

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : +- 15.0

LOW IDLE

Del. quantity 18.5 cm3/1000 strokes :

Tolerance

2.0 cm3/1000 strokes : +-

Check tolerance

cm3/1000s. 4.5

Spreed

Tolerance cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS x inside diameter: 2.0 600 x Length mm : Note remarks Refer to Service Info for test and adjustment instructions. REMARKS See microcard(s) W400/... Edition : 12.04.96 : ISO 4113 Test oil Combination No. : 9 400 030 747 (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. Injection pump per values _____ Pump designation : PES4A95D320/3RS2880 EP type number : 9 410 037 214 BEGINNING OF DELIVERY Governor Test pressure bar : 17.0 Tolerance bar : + 1.0 Governer design. : RSV475...1100A0C863R Governer no. : 9 420 034 721 Cust. part No. : 3930152 Prestroke mm 2.45 : + 0.05Tolerance mm Check Customer-spec. information : + 0.10tolerance mm Customer : CDC Rack travel in mm : 10.50 : 48T3.9 Matar Power KW : 71.0 Tolerance mm : +- 1.50 Firing order : 1-3-4-2 TEST BENCH REQUIREMENTS Inlet line : 3.2 : 0-90-180-270 Phasing Tolerance : +- 0.50 Check tolerance °NW : + - 0.75Test oil inlet temp. °C Tolerance °C Start of delivery blocking Overflow valve : 1 417 413 047 *NW after s.o.d. : 7.50 Tolerance : + 0.50Check : + - 0.75Inlet press. bar : 2.0 tolerance *NW Tolerance bar : +-0.1 : 1 Barrel no. Test nozzle holde : 1 688 901 101 BASIC SETTING assembly Rated speed rpm : 1100 Opening pressure 208.5 bar Tolerance bar 1.5 Rack travel in mm: 12.25 : +- 0.05 Tolerance mm Test Lines : 1 680 750 014 Del. quantity Outside diameter : 6.0 cm3/1000 strokes : 105.0

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Tolerance	•
cm3/1000 strokes : +- 1.0	- CONTROL LEVER
Check tolerance cm3/1000s. : +- 3.0	control lever position degree : 99.0
Spreed Tolerance cm3/1000 strokes : 4.0	tolerance degree : +- 4.0 RATED SPEED
Check tolerance cm3/1000s. : 6.5	rack travel mm : 11.25 Rated speed rpm : 1165 Tolerance 1/min : +- 5
Del. quantity cm3/1000 strokes : 20.5 Tolerance	rack travel mm : 6.00 Rated speed rpm : 1225
cm3/1000 strokes : +- 2.0 +- Check tolerance +-	Tolerance 1/min : + 5
cm3/1000s. : + 4.5 Spreed Tolerance	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1375
cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 8.0	rack travel mm : 6.00 Rated speed rpm : 1225
‡	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
	control lever
GUIDE SLEEVE POSITION	position degree : 87.0 tolerance degree : + 4.0
Rated speed rpm : 800 +	
+	Setting point w/out bumper spring
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Setting point w/out bumper spring Rated speed rpm : 475 rack travel mm : 5.15
Rack travel in mm: 0.50	Rated speed rpm : 475 rack travel mm : 5.15 Testing:
Rack travel in mm: 0.50 Tolerance mm: + 0.20 governor spring pre-tension	Rated speed rpm : 475 rack travel mm : 5.15
Rack travel in mm: 0.50 Tolerance mm: + 0.20 governor spring pre-tension click setting x: 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm: 1100	Rated speed rpm : 475 rack travel mm : 5.15 Testing: Rated speed rpm : 475 rack travel mm : 5.65
Rack travel in mm: 0.50 Tolerance mm: + 0.20 governor spring pre-tension click setting x: 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm: 1100 Aneroid pressure hPa:: 1000	Rated speed rpm : 475 rack travel mm : 5.15 Testing: Rated speed rpm : 475 rack travel mm : 5.65 Tolerance mm : + 0.10
Rack travel in mm: 0.50 Tolerance mm: + 0.20 governor spring pre-tension click setting x: 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm: 1100 Aneroid pressure hPa: 1000 Del. quantity cm3/1000 strokes: 105.0 Tolerance	Rated speed rpm : 475 rack travel mm : 5.15 Testing: Rated speed rpm : 475 rack travel mm : 5.65 Tolerance mm : + 0.10 Rated speed rpm : 100
Rack travel in mm: 0.50 Tolerance mm: + 0.20 governor spring pre-tension click setting x: 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm: 1100 Aneroid pressure hPa: 1000 Del. quantity cm3/1000 strokes: 105.0	Rated speed rpm : 475 rack travel mm : 5.15 Testing: Rated speed rpm : 475 rack travel mm : 5.65 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00
Rack travel in mm: 0.50 Tolerance mm: + 0.20 governor spring pre-tension click setting x: 4.25 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm: 1100 Aneroid pressure hPa: 1000 Del. quantity cm3/1000 strokes: 105.0 Tolerance cm3/1000 strokes: + 1.0 Check tolerance cm3/1000s: + 3.0	Rated speed rpm : 475 rack travel mm : 5.15 Testing: Rated speed rpm : 475 rack travel mm : 5.65 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 12.25

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

750 Rated speed rpm 1000 Pressure hPa

MEASUREMENT

Pressure hPa .750 Rated speed rpm 11.20 rack travel mm : +- 0.10 Tolerance mm

Rated speed rpm 750

600 Pressure hPa 12.70 rack travel mm : +- 0.20 Tolerance mm

410 Pressure hPa 11.80 rack travel mm : +- 0.20 Tolerance mm

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

1000 hPa 750 Rated speed rom

Del. quantity

cm3/1000 strokes : 115.0

Tolerance

cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.0

Aneraid pressure

hPa Rated speed rpm 750

Del. quantity

89.0 cm3/1000 strokes : Tolerance

cm3/1000 strokes

Check tolerance

cm3/1000s.

3.0

1.0

BREAKAWAY

11.25 Rack travel in mm: Rated speed rpm 1165 Tolerance 1/min

STARTING FUEL DELIVERY

Rated speed rpm 100 20.50 rack travel mm : + 0.50Tolerance mm Del. quantity cm3/1000 strokes : 120.5

Toterance cm3/1000 strokes : + 10.0

Check tolerance

cm3/1000s. : +- 15.0

LOW IDLE

Del. quantity cm3/1000 strokes : 20.5 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 8.0

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 12.04.96 Test oil : ISO 4113 Combination No. : 9 400 030 749 Injection pump Pump designation : PES4A95D320/3RS288D EP type number : 9 410 037 214 Governor Governer design. : RSV475...1050A0C864R Governer no. Cust. part No. : 3930155 Customer-spec. information Customer : CDC : 4BT3.9 Motor Power KW : 68.5 TEST BENCH REQUIREMENTS Inlet line : 3.2 Test oil inlet temp. °C 2.0 Tolerance °C Overflow valve : 1 417 413 047 Inlet press. bar : 2.0 : + 0.1 Tolerance bar Test nozzle holde : 1 688 901 101 assembly Opening pressure 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 014

x inside diameter x length mm	: 2.0 : 600
REMARKS	
(A) INJECTION PUM Set equal delivery per values	
BEGINNING OF DELIV	VERY
Test pressure bar Tolerance bar	: 17.0 : + 1.0
Prestroke mm Tolerance mm Check	: 2.45 : + 0.05
tolerance mm	: + 0.10
Rack travel in mm Tolerance mm	: 10.50 : + 1.50
Firing order	: 1-3-4-2
Phasing Tolerance Check	: 0-90-180-270 : +- 0.50
tolerance *NW	: + 0.75
Start of delivery	blocking
*NW after s.o.d. Tolerance	: 6.50 : +- 0.50
Check tolerance °NW	: + 0.75
Barrel no.	: 1
BASIC SETTING	
Rated speed rpm	: 1050
Rack travel in mm Tolerance mm	: 12.05 : + 0.05
Del. quantity cm3/1000 strokes	: 102.5

Outside diameter :

6.0

ı	
Tolerance cm3/1000 strokes : + 1.0	CONTROL LEVER
Check tolerance cm3/1000s. : + 3.0	control lever position degree : 96.0
Spreed Tolerance cm3/1000 strokes : 4.0	tolerance degree : + 4.0 RATED SPEED
Check tolerance cm3/1000s. : 6.5	rack travel mm : 11.25 Rated speed rpm : 1105 Tolerance 1/min : + 5
Del. quantity cm3/1000 strokes : 18.5 Tolerance	rack travel mm : 6.00 Rated speed rpm : 1165
cm3/1000 strokes : + 2.0 + Check tolerance cm3/1000s. : + 4.5 + Spreed	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1275
Tolerance cm3/1000 strokes: 6.0 Check tolerance cm3/1000s. : 8.0	rack travel mm : 6.00 Rated speed rpm : 1165
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	<pre>control lever position degree : 85.0 tolerance degree : + 4.0</pre>
Rated speed rpm : 800	Setting point w/out bumper spring
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Rated speed rpm : 475
+	rack travel mm : 5.15
governor spring + pre-tension +	
pre-tension click setting x : 2.75	rack travel mm : 5.15
pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 5.15 Testing: Rated speed rpm : 475 rack travel mm : 5.65
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000	rack travel mm : 5.15 Testing: Rated speed rpm : 475 rack travel mm : 5.65 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 102.5	rack travel mm : 5.15 Testing: Rated speed rpm : 475 rack travel mm : 5.65 Tolerance mm : + 0.10 Rated speed rpm : 100
pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 102.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	rack travel mm : 5.15 Testing: Rated speed rpm : 475 rack travel mm : 5.65 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00
pre-tension click setting x : 2.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1050 Aneroid pressure hPa : 1000 Del. quantity cm3/1000 strokes : 102.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	rack travel mm : 5.15 Testing: Rated speed rpm : 475 rack travel mm : 5.65 Tolerance mm : + 0.10 Rated speed rpm : 100 CRT mm min. : > 19.00 TORQUE CONTROL Rated speed rpm : 1050 rack travel mm : 12.05

Rated speed rpm rack travel mm Tolerance mm	: 1000 : 12.40 : ← 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 750 : 1000
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 750 : 11.60 : + 0.10
Rated speed rpm	: 750
Pressure hPa rack travel mm Tolerance mm	: 720 : 13.10 : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 510 : 12.10 : + 0.20
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1000 : 750
cm3/1000 strokes Tolerance	: 123.5
cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s.	: +- 4.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	750 96.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: + 3.0

Rack travel in mm : 11.25
Rated speed rpm : 1105
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 136.5 Tolerance cm3/1000 strokes : + 10.0 Check tolerance cm3/1000s. : + 15.0

LOW IDLE

Del. quantity
cm3/1000 strokes : 18.5
Tolerance
cm3/1000 strokes : + 2.0
Check tolerance
cm3/1000s. : + 4.5
Spreed
Tolerance
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000s. : 8.0

End of test specification sheet

BREAKAWAY

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 11.04.96 Edition : ISO 4113 Test oil

Combination No. : 0 400 076 953

Injection pump

Pump designation : PES6M55C32ORS203 EP type number : 0 410 056 982

Governor

Governer design. : RSF315/2500M70-11 Governer no. : 0 420 021 270

Cust. part No. :

Customer-spec. information Customer : MB-PKW : 0M606 USA Motor Power KW : 95.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

: 148.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 1.75 Tolerance mm : +- 0.05 Check tolerance mm : +- 0.10

Rack travel in mm : 21.00 Tolerance mm : + 1.00

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Start of delivery blocking

*NW after s.o.d. : 17.00 Tolerance : + 0.20 Check tolerance °NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 13.15 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 38.0

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s. : + 1.5

Spreed

Totoppoo	
Tolerance cm3/1000 strokes : 2.5	SET IDLE CONTROL LEVER POSITION
Check tolerance cm3/1000s. : 3.0	Rated speed rpm : 1100
Rated speed rpm : 290	CRT mm max. : 1.95
Rack travel in mm: 7.30 Tolerance mm: + 0.10 Del. quantity	LOW IDLE
cm3/1000 strokes : 8.5	control lever
cm3/1000 strokes : +- 0.5 Spreed Tolerance	position degree : 10.5 tolerance degree : +- 2.0
cm3/1000 strokes : 1.0	Setting point w/out bumper spring Rated speed rpm : 290 rack travel mm : 7.30
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	SET IDLE AUXILIARY SPRING
IDLE STAGE	Rated speed rpm : 400 rack travel mm : 6.00 Tolerance mm : + 0.10
Rack travel in mm: 6.25 Tolerance mm: + 0.25	rack travel mm : 3.00 Rated speed rpm : 700 Tolerance 1/min : + 50
FULL LOAD DELIVERY AT FULL LOAD STOP	Load pick-up
Rated speed rpm : 1100 Ref. pressure	Rated speed rpm : 220
ALDA / ADA hPa : 1100 Del. quantity	CRT mm min. :> 9.00
cm3/1000 strokes : 38.0	Rated speed rpm : 1100
cm3/1000 strokes : + 0.5 Check tolerance	CRT mm max. : 1.95
cm3/1000s. : + 1.5 Spreed Tolerance	rack travel mm : 7.30 Rated speed rpm : 290
cm3/1000 strokes : 2.5 Check tolerance	
cm3/1000s. : 3.0	TORQUE CONTROL
RATED SPEED	Rated speed rpm : 1100 rack travel mm : 13.15 Tolerance mm : +- 0.05
control lever position degree : 50.0	Rated speed rpm : 2000 rack travel mm : 12.30 Tolerance mm : + 0.15
rack travel mm : 7.90 + Rated speed rpm : 2700 +	Rated speed rpm : 2500 rack travel mm : 11.80
rack travel mm : 1.00 + Tolerance mm : +- 1.00 + Rated speed rpm : 3000 + Tolerance mm :	Tolerance mm : + 0.15 Rated speed rpm : 500
indica opeca i piii i oooo	The second second second

rack travel mm Tolerance mm	: 12.30 : +- 0.15	+ Check tolerance + cm3/1000s. : +- 2.0 + Spreed
Rated speed rpm rack travel mm Tolerance mm	: 12.90	Tolerance cm3/1000 strokes : 2.5 Check tolerance
		cm3/1000s. : 3.0
ADJUSTMENT TEST	ADA/ALDA	Ref. pressure + ALDA / ADA hPa : 1100
SETTING		Rated speed rpm : 500 Del. quantity
Rated speed rpm		+ cm3/1000 strokes : 32.0 + Tolerance
Ref. pressure ALDA / ADA hPa	: 940	+ cm3/1000 strokes : +- 0.8
rack travel mm Tolerance mm	: -0.10 : +- 0.10	+ Check tolerance + cm3/1000s. : + 1.8
MEASUREMENT		Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 32.0 Tolerance cm3/1000s. : + 0.8 Check tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0 Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 900 Del. quantity cm3/1000 strokes : 36.2 Tolerance cm3/1000 strokes : 36.2 Tolerance cm3/1000 strokes : 4.8 Check tolerance cm3/1000 strokes : + 0.8 Check tolerance cm3/1000s. : + 1.8 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000 strokes : 3.0
Rated speed rpm	: 1100	+ Check tolerance + cm3/1000s. : 3.0
Ref. pressure ALDA / ADA hPa		. 3.0
ALDA / ADA hPa rack travel mm	: 900 : -0.40	+ Ref. pressure + ALDA / ADA hPa : 1100
Tolerance mm	: + 0.10	Rated speed rpm : 900
Rated speed rpm	: 1100	+ Del. quantity + cm3/1000 strokes : 36.2
Ret. pressure ALDA / ADA hPa	: 750	+ Tolerance + cm3/1000 strokes : +- 0.8
Rated speed rpm Ref. pressure ALDA / ADA hPa rack travel mm Tolerance mm	: -1.50 : +- 0.20	+ Check tolerance + cm3/1000s. :+- 1.8
rocer disce that	0.20	Spreed
		Tolerance cm3/1000 strokes : 2.5
FUEL DELIVERY CHA	ARACTERISTICS	Check tolerance cm3/1000s. : 3.0
Ref. pressure ALDA / ADA hPa	: 1100	İ
Rated speed rpm	: 2000	
Del. quantity cm3/1000 strokes		+ HIGH IDLE
Tolerance		Ref. pressure
cm3/1000 strokes Check tolerance cm3/1000s.		+ ALDA / ADA hPa : 1100
cm3/1000s. Spreed	: +- 1.8	STARTING FUEL DELIVERY
Tolerance		+
cm3/1000 strokes Check tolerance		+ Rated speed rpm : 100 + rack travel mm :> 20.10
cm3/1000s.	: 3.0	+ Del. quantity
Ref. pressure	. 4400	cm3/1000 strokes : 52.0 Spreed
ALDA / ADA hPa Rated speed rpm		Tolerance cm3/1000 strokes : 6.0
Spreed		Check tolerance cm3/1000s. : 6.0
Del. quantity cm3/1000 strokes	: 37.3	T (110/1000) 0.0
Tolerance cm3/1000 strokes	: +- 1.0	<u> </u>
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LOW IDLE

Rated speed rpm : 290
rack travel mm : 7.30
Tolerance mm : + 0.15
Del. quantity
cm3/1000 strokes : 9.5
Check tolerance
cm3/1000s. : + 2.3
Spreed
Check tolerance
cm3/1000s. : 1.5

SETTING PNEUMATIC FAST IDLE (ELA)

control lever
position degree : 10.5
tolerance degree : + 2.0

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever
position degree : 10.5
tolerance degree : + 2.0
Rated speed rpm : 315

Rack travel in mm : 13.40
Tolerance mm : + 0.70
Del. quantity
cm3/1000 strokes : 35.0

Tolerance

cm3/1000 strokes : +- 3.5

Current A : 1.80

control lever

position degree : 50.0 Rated speed rpm : 3000

Rack travel in mm : 1.00 Tolerance mm : + 1.00

Current short-

duration A : 3.00

Starting test

Rated speed rpm : 100

Current A : 1.80

ADJUSTMENT

control lever position degree : 50.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 290

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 03.04.96 Test oil : ISO 4113

Combination No. : 0 402 640 804

Injection pump

Pump designation : PE12P12OA32OLS7807 EP type number : 0 412 620 806

Governor

Governor design. : RQV350...1050PA842

Governer no. : 0 421 813 587

Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : OM 444 A
Power KW : 390.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 160 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50Tolerance mm : $\leftarrow 1.50$

Firing order : 12-1-5-9-8

: - 3- 4- 11- 10 : - 2- 6- 7

Phasing : 0-45-60-105-120 : -165-180-225-240

: -765-780-225-240 : -285-300-345

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 13.60 Tolerance mm : + 0.10

Del. quantity cm3/1000 strokes : 200.0

+	- Rated speed rpm : 1150
Tolerance cm3/1000 strokes : +- 1.0	- Rack travel in mm : 16.50 - Tolerance mm : +- 1.30
Check tolerance cm3/1000S. : + 4.0	- FULL LOAD DELIVERY AT FULL LOAD STOP
Spreed	•
Tolerance cm3/1000 strokes : 5.0	Rated speed rpm : 600 Aneroid pressure
Check tolerance	hPa : 660 Del. quantity
cm3/1000s. : 9.0	cm3/1000 strokes : 200.0 Tolerance
Rated speed rpm : 350	cm3/1000 strokes : +- 1.0
Rack travél in mm: 5.55	Check tolerance cm3/1000s. : +- 4.0
Tolerance mm : +- 0.15 + Del. quantity +	Spreed Tolerance
cm3/1000 strokes : 19.0	- cm3/1000 strokes : 5.0
Tolerance + 3.0 +	Check tolerance cm3/1000s. : 9.0
Check tolerance	
cm3/1000s. : + 4.5 + 5	
Tolerance	CONTROL LEVER
cm3/1000 strokes : 8.0 + Check tolerance	control lever
cm3/1000s. : 12.0	position degree : 63.0
†	tolerance degree : +- 4.0
(B) SETTING OF INJECTION PUMP	RATED SPEED
WITH GOVERNOR +	
ATTIT GOVERNOR	most thought me at 11,00
WITH GOVERNOR	rack travel mm : 11.00 Rated speed rpm : 1095
GUIDE SLEEVE TRAVEL	
GUIDE SLEEVE TRAVEL Rated speed rpm : 350	Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00
GUIDE SLEEVE TRAVEL Rated speed rpm : 350 guide sleeve	Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1170
GUIDE SLEEVE TRAVEL Rated speed rpm : 350	Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1170 Tolerance 1/min : + 15
GUIDE SLEEVE TRAVEL Rated speed rpm : 350 guide sleeve travel mm : 2.00 Tolerance mm : + 0.10	Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1170 Tolerance 1/min : + 15 rack travel mm : 0.50
GUIDE SLEEVE TRAVEL Rated speed rpm : 350 guide sleeve travel mm : 2.00 Tolerance mm : + 0.10 Rated speed rpm : 1200 guide sleeve	Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1170 Tolerance 1/min : + 15
GUIDE SLEEVE TRAVEL Rated speed rpm : 350 guide sleeve travel mm : 2.00 Tolerance mm : + 0.10 Rated speed rpm : 1200 guide sleeve travel mm : 8.50	Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1170 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
GUIDE SLEEVE TRAVEL Rated speed rpm : 350 guide sleeve travel mm : 2.00 Tolerance mm : + 0.10 Rated speed rpm : 1200 guide sleeve travel mm : 8.50 Tolerance mm : + 0.20	Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1170 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300
GUIDE SLEEVE TRAVEL Rated speed rpm : 350 guide sleeve travel mm : 2.00 Tolerance mm : + 0.10 Rated speed rpm : 1200 guide sleeve travel mm : 8.50 Tolerance mm : + 0.20 Rated speed rpm : 700	Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1170 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
GUIDE SLEEVE TRAVEL Rated speed rpm : 350 guide sleeve travel mm : 2.00 Tolerance mm : + 0.10 Rated speed rpm : 1200 guide sleeve travel mm : 8.50 Tolerance mm : + 0.20 Rated speed rpm : 700 guide sleeve travel mm : 4.20	Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1170 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300 LOW IDLE
GUIDE SLEEVE TRAVEL Rated speed rpm : 350 guide sleeve travel mm : 2.00 Tolerance mm : + 0.10 Rated speed rpm : 1200 guide sleeve travel mm : 8.50 Tolerance mm : + 0.20 Rated speed rpm : 700 guide sleeve	Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1170 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300 LOW IDLE
GUIDE SLEEVE TRAVEL Rated speed rpm : 350 guide sleeve travel mm : 2.00 Tolerance mm : + 0.10 Rated speed rpm : 1200 guide sleeve travel mm : 8.50 Tolerance mm : + 0.20 Rated speed rpm : 700 guide sleeve travel mm : 4.20	Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1170 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300 LOW IDLE
GUIDE SLEEVE TRAVEL Rated speed rpm : 350 guide sleeve travel mm : 2.00 Tolerance mm : + 0.10 Rated speed rpm : 1200 guide sleeve travel mm : 8.50 Tolerance mm : + 0.20 Rated speed rpm : 700 guide sleeve travel mm : 4.20 Tolerance mm : + 0.20 Rated speed rpm : 1100 guide sleeve guide sleeve : 1100 guide sleeve	Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1170 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300 LOW IDLE control lever position degree : 14.0 tolerance degree : + 4.0
GUIDE SLEEVE TRAVEL Rated speed rpm : 350 guide sleeve travel mm : 2.00 Tolerance mm : + 0.10 Rated speed rpm : 1200 guide sleeve travel mm : 8.50 Tolerance mm : + 0.20 Rated speed rpm : 700 guide sleeve travel mm : 4.20 Tolerance mm : + 0.20 Rated speed rpm : 1100 guide sleeve travel mm : 1100 guide sleeve travel mm : 7.00	Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1170 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300 LOW IDLE control lever position degree : 14.0
GUIDE SLEEVE TRAVEL Rated speed rpm : 350 guide sleeve travel mm : 2.00 Tolerance mm : + 0.10 Rated speed rpm : 1200 guide sleeve travel mm : 8.50 Tolerance mm : + 0.20 Rated speed rpm : 700 guide sleeve travel mm : 4.20 Tolerance mm : + 0.20 Rated speed rpm : 1100 guide sleeve travel mm : 1100 guide sleeve travel mm : 7.00	Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1170 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300 LOW IDLE control lever position degree : 14.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 350
GUIDE SLEEVE TRAVEL Rated speed rpm : 350 guide sleeve travel mm : 2.00 Tolerance mm : + 0.10 Rated speed rpm : 1200 guide sleeve travel mm : 8.50 Tolerance mm : + 0.20 Rated speed rpm : 700 guide sleeve travel mm : 4.20 Tolerance mm : + 0.20 Rated speed rpm : 1100 guide sleeve travel mm : 1100 guide sleeve travel mm : 7.00	Rated speed rpm : 1095 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1170 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1300 LOW IDLE control lever position degree : 14.0 tolerance degree : + 4.0 Testing:

Rated speed rpm					
	: 250	+	Aneroid pressure		1100
CRT mm min.	: > 7.10	I	hPa Rated speed rpm	•	100
Ger wan miles	* * * * * * * * * * * * * * * * * * * *	1	Del. quantity	•	1000
Rated speed rpm	: 500	1	cm3/1000 strokes	:	172.0
		+	Tolerance		
		 +	cm3/1000 strokes		← 2.0
TORQUE CONTROL		+	Check tolerance		
		+	cm3/1000s.	:	+- 5.0
Rated speed rpm		†	Spreed		
rack travel mm Tolerance mm	; + 0.10	Ī	Tolerance cm3/1000 strokes		8.0
IOCEI GLIGE IIM	5.10	I	Check tolerance	•	0.0
Rated speed rpm	: 1050	1	cm3/1000s.	:	12.0
rack travel mm		1		•	
rack travel mm Tolerance mm	: +- 0.10	+	Aneroid pressure		
		+	hPa	:	1100
Rated speed rpm	: 975	+	Rated speed rpm	:	750
rack travel mm	: 12.70	†	Del. quantity		221.2
Tolerance mm	: ← U.7U	+	cm3/1000 strokes	:	206.0
?	. 075	†	Tolerance	_	
Rated speed rpm	: 875 : 13.30	Ī	cm3/1000 strokes Check tolerance	•	~~ 2.0
rack travel mm Folerance mm	: + 0.10	I	cm3/1000s.	•	+- 5.0
Occi arioc risir		1	Spreed	•	
Rated speed rpm	: 750	+	Tolerance		
rack travel mm	: 13.60	+	cm3/1000 strokes	:	8.0
Tolerance mm	: ← 0.10	+	Check tolerance		
		†	cm3/1000s.	:	12.0
ANEROID/ALTITUDE		T I	Aneroid pressure		
COMPENSATOR TEST		+	hPa	:	1100
		+	Rated speed rpm	:	1050
		+	Del. quantity		
		+	cm3/1000 strokes	:	152.0
IEASUREMENT		†	Tolerance		. 20
Danasiana hDa	: 350	†	cm3/1000 strokes	:	+- 2.0
ressure hPa	: 350 : -2.10	I	Check tolerance cm3/1000s.		+- 5.0
nock the vol mm		T		• .	
	· +- 0.05	1	Spreed	:	· J.0
	: +- 0.05	1	Spreed Tolerance	:	· · J.0
Folerance mm	: +- 0.05	+	Tolerance	-	
Folerance mm Pressure hPa	: +- 0.05 : 500	‡		-	
olerance mm Pressure hPa Pack travel mm	: +- 0.05 : 500 : -0.60	+++++++++++++++++++++++++++++++++++++++	Tolerance cm3/1000 strokes	-	
Tolerance mm Pressure hPa rack travel mm	: +- 0.05 : 500 : -0.60	+++++++++++++++++++++++++++++++++++++++	Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	-	8.0
Folerance mm Pressure hPa rack travel mm Folerance mm	: +- 0.05 : 500 : -0.60	+ + + + + + + + + + + + + + + + + + + +	Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Aneroid pressure	-	8.0
Tolerance mm Pressure hPa Prack travel mm Tolerance mm	: +- 0.05 : 500 : -0.60	+ + + + + + + + + +	Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Aneroid pressure hPa	:	8.0 12.0 -
Tolerance mm Pressure hPa rack travel mm Tolerance mm	: +- 0.05 : 500 : -0.60 : +- 0.10	+++++++++++++++++++++++++++++++++++++++	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	:	8.0 12.0 -
Folerance mm Pressure hPa rack travel mm Folerance mm START CUT-OUT Rated speed rpm	: +- 0.05 : 500 : -0.60 : +- 0.10 : > 100	+ + + + + + + + + + + + + + + + + + +	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity	:	8.0 12.0 - 500
Tolerance mm Pressure hPa rack travel mm Tolerance mm START CUT-OUT Rated speed rpm	: +- 0.05 : 500 : -0.60 : +- 0.10 : > 100	+++++++++++++++++++++++++++++++++++++++	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	:	8.0 12.0 -
Pressure hPa Prack travel mm Folerance mm START CUT-OUT Rated speed rpm Rated speed rpm	: +- 0.05 : 500 : -0.60 : +- 0.10 : > 100	++++++++++++++++++++++++++++++++++++++	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity	:	8.0 12.0 - 500
Pressure hPa Prack travel mm Folerance mm START CUT-OUT Rated speed rpm Rated speed rpm	: +- 0.05 : 500 : -0.60 : +- 0.10 : > 100	+++++++++++++++++++++++++++++++++++++++	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance		8.0 12.0 - 500 137.0 +- 1.0
ressure hPa rack travel mm rolerance mm TART CUT-OUT rated speed rpm rated speed rpm rated speed rpm rheck peed 1/min heck	: +- 0.05 : 500 : -0.60 : +- 0.10 : > 100 : < 270 : > 80	+++++++++++++++++++++++++++++++++++++++	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	:	8.0 12.0 - 500 137.0 +- 1.0
Pressure hPa Pressure hPa Prack travel mm Folerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check Reck Reck Reck	: +- 0.05 : 500 : -0.60 : +- 0.10 : > 100 : < 270	+++++++++++++++++++++++++++++++++++++++	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed		8.0 12.0 - 500 137.0 +- 1.0
Folerance mm Pressure hPa Fack travel mm Folerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check speed 1/min Check	: +- 0.05 : 500 : -0.60 : +- 0.10 : > 100 : < 270 : > 80	+++++++++++++++++++++++++++++++++++++++	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance		8.0 12.0 - 500 137.0 ← 1.0 ← 4.0
Tolerance mm Pressure hPa rack travel mm Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min	: +- 0.05 : 500 : -0.60 : +- 0.10 : > 100 : < 270 : > 80 : < 290	+++++++++++++++++++++++++++++++++++++++	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes		8.0 12.0 - 500 137.0 +- 1.0
rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check speed 1/min Check speed 1/min	: +- 0.05 : 500 : -0.60 : +- 0.10 : > 100 : < 270 : > 80 : < 290	+++++++++++++++++++++++++++++++++++++++	Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance		8.0 12.0 - 500 137.0 ← 1.0 ← 4.0

BREAKAWAY

Rack travel in mm: 11.00
Rated speed rpm: 1095
Tolerance 1/min: +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 230.0
Tolerance
cm3/1000 strokes : +- 10.0
Check tolerance
cm3/1000s. : +- 14.0

LOW IDLE

Rated speed rpm 350 5.55 rack travel mm Tolerance mm 0.15 Del. quantity cm3/1000 strokes : 19.0 Tolerance 3.0 cm3/1000 strokes : +-Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 22.03.96 Test oil : ISO 4113

Combination No. : 0 402 646 627

Injection pump

Pump designation : PE6P120A320RS7297

: -10

EP type number : 0 412 626 921

Governor

Governer design. : RQV350...1100PA795

: -12

Governer no. : 0 421 813 914

Cust. part No. : 1340653

Customer—spec. information
Customer : SCANIA
Motor : DSC 909

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Overflow quantity

min. l/h : 210 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05
Check

Cueck

tolerance mm : + 0.10

Rack travel in mm : 13.00 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

٠ 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance "NW : + 0.50

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.25 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 205.0

Tolerance +	
cm3/1000 strokes : +- 1.0 +	CONTROL A CHED
Charle to Language	CONTROL LEVER
Check tolerance	aambuul lavan
cm3/1000s. : +- 4.0	control lever
	position degree : 47.0
Spreed	tolerance degree : +- 4.0
Tolerance +	and all laves
cm3/1000 strokes : 8.0 +	control lever
Charles de la constant de la constan	position degree : 106.0
Check tolerance +	tolerance degree : +- 4.0
cm3/1000s. : 12.0 +	DATES ODEES
Detail and all man	RATED SPEED
Rated speed rpm : 250 +	mark turning man a 45.30
	rack travel mm : 12.20
Rack travel in mm: 4.90	Rated speed rpm : 1145
Tolerance mm : + 0.30 +	Tolerance 1/min : +- 5
Del. quantity +	
cm3/1000 strokes : 26.0 +	rack travel mm : 4.00
Tolerance	Rated speed rpm : 1270
cm3/1000 strokes : + 3.0 +	Tolerance 1/min : + 15
Check tolerance +	
cm3/1000s. : +- 6.0 +	rack travel mm : 0.50
Spreed	Tolerance mm : +- 0.50
Tolerance	Rated speed rpm : 1400
cm3/1000 strokes : 4.0 +	
Check tolerance +	
cm3/1000s. : 8.0	
†	LOW IDLE
*	
(B) SETTING OF INJECTION PUMP	andral lavas
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever
The state of the s	position degree : 68.0
The state of the s	
WITH GOVERNOR	position degree : 68.0 tolerance degree : +- 4.0
The state of the s	position degree : 68.0 tolerance degree : +- 4.0 control lever
GUIDE SLEEVE POSITION	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0
WITH GOVERNOR	position degree : 68.0 tolerance degree : +- 4.0 control lever
GUIDE SLEEVE POSITION Rated speed rpm : 1300	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSITION Rated speed rpm : 1300 Rack travel in mm : 12.00	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0
GUIDE SLEEVE POSITION Rated speed rpm : 1300	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0 Testing:
GUIDE SLEEVE POSITION Rated speed rpm : 1300 Rack travel in mm : 12.00	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 250
GUIDE SLEEVE POSITION Rated speed rpm : 1300 Rack travel in mm : 12.00 Tolerance mm : + 1.30	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 250 rack travel mm : 4.90
GUIDE SLEEVE POSITION Rated speed rpm : 1300 Rack travel in mm : 12.00	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 250
GUIDE SLEEVE POSITION Rated speed rpm : 1300 Rack travel in mm : 12.00 Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 250 rack travel mm : 4.90 Tolerance mm : +- 0.10
GUIDE SLEEVE POSITION Rated speed rpm : 1300 Rack travel in mm : 12.00 Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 250 rack travel mm : 4.90
GUIDE SLEEVE POSITION Rated speed rpm : 1300 Rack travel in mm : 12.00 Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 250 rack travel mm : 4.90 Tolerance mm : +- 0.10 Rated speed rpm : 150
GUIDE SLEEVE POSITION Rated speed rpm : 1300 Rack travel in mm : 12.00 Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : -	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 250 rack travel mm : 4.90 Tolerance mm : +- 0.10
GUIDE SLEEVE POSITION Rated speed rpm : 1300 Rack travel in mm : 12.00 Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : - Del. quantity	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 250 rack travel mm : 4.90 Tolerance mm : +- 0.10 Rated speed rpm : 150 CRT mm min. : > 6.40
GUIDE SLEEVE POSITION Rated speed rpm : 1300 Rack travel in mm : 12.00 Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 205.0	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 250 rack travel mm : 4.90 Tolerance mm : +- 0.10 Rated speed rpm : 150
GUIDE SLEEVE POSITION Rated speed rpm : 1300 Rack travel in mm : 12.00 Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 205.0 Tolerance	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 250 rack travel mm : 4.90 Tolerance mm : +- 0.10 Rated speed rpm : 150 CRT mm min. : > 6.40
GUIDE SLEEVE POSITION Rated speed rpm : 1300 Rack travel in mm : 12.00 Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : + 1.0	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 250 rack travel mm : 4.90 Tolerance mm : +- 0.10 Rated speed rpm : 150 craft mm min. : > 6.40 Rated speed rpm : 250
GUIDE SLEEVE POSITION Rated speed rpm : 1300 Rack travel in mm : 12.00 Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 250 rack travel mm : 4.90 Tolerance mm : +- 0.10 Rated speed rpm : 150 CRT mm min. : > 6.40
GUIDE SLEEVE POSITION Rated speed rpm : 1300 Rack travel in mm : 12.00 Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 250 rack travel mm : 4.90 Tolerance mm : +- 0.10 Rated speed rpm : 150 CRT mm min. : > 6.40 Rated speed rpm : 250
GUIDE SLEEVE POSITION Rated speed rpm : 1300 Rack travel in mm : 12.00 Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 250 rack travel mm : 4.90 Tolerance mm : +- 0.10 Rated speed rpm : 150 CRT mm min. : > 6.40 Rated speed rpm : 250 TORQUE CONTROL Rated speed rpm : 1100
GUIDE SLEEVE POSITION Rated speed rpm : 1300 Rack travel in mm : 12.00 Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 250 rack travel mm : 4.90 Tolerance mm : +- 0.10 Rated speed rpm : 150 CRT mm min. : > 6.40 Rated speed rpm : 250 TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 13.25
GUIDE SLEEVE POSITION Rated speed rpm : 1300 Rack travel in mm : 12.00 Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 250 rack travel mm : 4.90 Tolerance mm : +- 0.10 Rated speed rpm : 150 CRT mm min. : > 6.40 Rated speed rpm : 250 Torque control. Rated speed rpm : 250 Torque control.
GUIDE SLEEVE POSITION Rated speed rpm : 1300 Rack travel in mm : 12.00 Tolerance mm : + 1.30 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 700 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 205.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance	position degree : 68.0 tolerance degree : +- 4.0 control lever position degree : 11.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 250 rack travel mm : 4.90 Tolerance mm : +- 0.10 Rated speed rpm : 150 CRT mm min. : > 6.40 Rated speed rpm : 250 TORQUE CONTROL Rated speed rpm : 1100 rack travel mm : 13.25

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

500 Rated speed rpm Pressure hPa 1500 rack travel mm 13.25 : + , 0.05Tolerance mm

MEASUREMENT

Pressure hPa 500 Rated speed rpm 11.00 rack travel mm Tolerance mm : + 0.20

Rated speed rpm 500

470 Pressure hPa 11.95 rack travel mm Tolerance mm : +- 0.15

Pressure hPa 670 rack travel mm 12.85 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 1100 Rated speed rpm

Del. quantity

cm3/1000 strokes 183.0

Tolerance

cm3/1000 strokes 4.0

Check tolerance

cm3/1000s. 6.0

Aneroid pressure

hPa Rated speed rpm 500

Del. quantity

cm3/1000 strokes 170.0

Tolerance

cm3/1000 strokes 1.0

Check tolerance

cm3/1000S. 4.0

BREAKAWAY

Rack travel in mm: 12.20 Rated speed rom : 1145 Tolerance 1/min

STARTING FUEL DELIVERY

Rated speed rpm 100 rack travel mm 20.50 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 265.0 Tolerance cm3/1000 strokes : +- 20.0

Check tolerance

cm3/1000s. : + 24.0

LOW IDLE

Rated speed rpm 250 : 4.90 rack travel mm Tolerance mm 0.30 Del. quantity cm3/1000 strokes 26.0 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.04.96 : ISO 4113 Test oil

Combination No. : 0 402 646 666

Injection pump

Pump designation : PE6P120A320LS7278 EP type number : 0 412 626 880

Governor

Governer design. : RQV350...900PA1273 : 0 421 814 174 Governer no.

Cust. part No.

Customer-spec. information Customer : LIAZ Motor : M640D : 300.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 125 Tolerance L/h : +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.50 : + 0.05Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : + 0.30

Check

tolerance *NW : + - 0.50

Start of delivery mark

: +- 0.50 Tolerance

Check

tolerance "NW : + 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 15.50

Del. quantity cm3/1000 strokes : 294.0	guide sleeve travel mm : 10.00 Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes : +- 1.0	Rated speed rpm : 1090 guide sleeve
Check tolerance cm3/1000s. : + 4.0	travel mm : 11.50 Tolerance mm : + 0.50
Spreed Tolerance cm3/1000 strokes : 8.0	GUIDE SLEEVE POSITION
Check tolerance	Rated speed rpm : 975
cm3/1000s. : 12.0 +	Rack travel in mm : 14.50 Tolerance mm : + 2.00
Rated speed rpm : 325	
Rack travel in mm: 5.30 Tolerance mm: + 0.30	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 24.0	Rated speed rpm : 900 Aneroid pressure
Tolerance + 3.0 +	hPa : 1500 Del. quantity
Check tolerance + 6.0 +	cm3/1000 strokes : 294.0 Tolerance
Spreed Tolerance	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000 strokes : 5.0 Check tolerance	cm3/1000s. : +- 4.0 Spreed
cm3/1000s. : 9.0	Tolerance cm3/1000 strokes : 8.0
Į	Check tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	cm3/1000s. : 12.0
GUIDE SLEEVE TRAVEL	CONTROL LEVER
Rated speed rpm : 325	control lever
guide sleeve + travel mm : 1.50 +	position degree : 66.0 tolerance degree : + 4.0
Tolerance mm : +- 0.20	•
Rated speed rpm : 958	control lever position degree : 120.0
guide sleeve	tolerance degree : + 4.0
travel mm : 8.02	04770 00770
Tolerance mm : +- 0.15	RATED SPEED
Rated speed rpm : 810	rack travel mm : 14.50
guide sleeve + travel mm : 6.01 +	Rated speed rpm : 945 Tolerance 1/min : +- 5
travel mm : 6.01 + Tolerance mm : + 0.25	
Rated speed rpm : 540	rack travel mm : 4.00 Rated speed rpm : 1005 Tolerance 1/min : +- 15
guide sleeve † travel mm : 3.71 +	TOTELBUCK WHILL ! TO 13
Tolerance mm : + 0.25	rack travel mm : 0.50
Rated speed rpm : 1017	Tolerance mm : +- 0.50 Rated speed rpm : 1150

LOW IDLE	
control lever position degree tolerance degree	: 65.0 : + 4.0
control lever position degree tolerance degree	: 11.0 : + 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 325 : 5.30 : + 0.10
Rated speed rpm	: 225
CRT mm min.	: > 7.00
Rated speed rpm	: 390
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 900 : 15.50 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 700 : 15.50 : +- 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 15.50 : +- 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 9.20 : + 0.20
Rated speed rpm	: 500
Pressure hPa rack travel mm	: 250 : 10.60

Tolerance mm Pressure hPa rack travel mm Tolerance mm	: + 0.25 : 540 : 13.90 : + 0.05
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	RACTERISTICS : 1500 : 700 : 316.0 : +- 3.0
Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 6.0 : 500 : 169.0 : +- 2.0 : +- 4.0
BREAKAWAY Rack travel in mm Rated speed rpm Tolerance 1/min	: 14.50 : 945 : + 5
STARTING FUEL DEL Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 310.0 : + 20.0 : +- 24.0
LOW IDLE Rated speed rpm rack travel mm Tolerance mm	: 325 : 5.30 : + 0.30

Del. quantity		
cm3/1000 strokes	:	24.0
Tolerance		
cm3/1000 strokes	: +-	3.0
Check tolerance		
cm3/1000s.	: +-	6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	5.0
Check tolerance		
cm3/1000S.	:	9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 12,04,96 Edition : ISO 4113 Test oil

Combination No. : 0 402 646 745

Injection pump

Pump designation : PE6P120A320LS7872 EP type number : 0 412 626 912

Governor

Governer design. : RQV300...1050PA1241K

Governer no. : 0 421 815 476

Cust. part No. : 80165-6-13

Customer-spec. information

Customer : KHD

: BF6M1015C Motor Power KW : 300.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 4 40

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 105 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 × Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.05 : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

: 1-6-3-5-2-: 4 Firing order

: 0-60-120-180-240 Phasing

: -300 Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm; 14.40

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 350.0

Tolerance cm3/1000 strokes : +- 1.0	<u> </u>
	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : +- 4.0	Rated speed rpm : 1205
Spreed Tolerance cm3/1000 strokes : 8.0	Rack travel in mm: 13.40 Tolerance mm: + 1.30
Check tolerance cm3/1000s. : 12.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 300	+ Rated speed rpm : 1050 + Aneroid pressure + hPa : 1700
Rack travel in mm : 4.90 Tolerance mm : + 0.20 Del. quantity	Del. quantity cm3/1000 strokes : 350.0 Tolerance
cm3/1000 strokes : 23.0 Tolerance	cm3/1000 strokes : + 1.0 Check tolerance
cm3/1000 strokes : +- 3.0 Check tolerance	cm3/1000s. : + 4.0 Spreed
cm3/1000s. : +- 6.0 Spreed Tolerance	Tolerance cm3/1000 strokes : 8.0 Check tolerance
cm3/1000 strokes : 8.0 Check tolerance	cm3/1000s. : 12.0
cm3/1000s. : 12.0	<u> </u>
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control Lever position degree : 121.0 tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	RATED SPEED
Rated speed rpm : 300 guide sleeve travel mm : 2.74 Tolerance mm : + 0.20	rack travel mm : 13.40 Rated speed rpm : 1085 Tolerance 1/min : + 5
Rated speed rpm : 1107 guide sleeve travel mm : 9.89	rack travel mm : 4.00 Rated speed rpm : 1220 Tolerance 1/min : + 15
Tolerance mm : + 0.15 Rated speed rpm : 772	rack travel mm : 0.50 Tolerance mm : + 0.50
guide sleeve travel mm : 6.82 Tolerance mm : +- 0.25	+ Rated speed rpm : 1300
Rated speed rpm : 440 guide sleeve	LOW IDLE
travel mm : 3.88 Tolerance mm : + 0.25	control lever position degree : 76.0
Rated speed rpm : 1380 guide sleeve	tolerance degree : +- 4.0
travel mm : 13.50 Tolerance mm : + 0.50	Testing:

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Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min.	: 4.90 : + 0.10 : 200 : > 7.10	Aneroid pressure hPa : 1700 Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 353.0 Tolerance cm3/1000strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0 Aneroid pressure hPa : Rated speed rpm : 400 Del. quantity cm3/1000 strokes : 230.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 10.0 Check tolerance cm3/1000 strokes : 10.0 Check tolerance cm3/1000s. : 14.0
Rated speed rpm	: 355	+ cm3/1000S. : +- 6.0 + Aneroid pressure
TORQUE CONTROL		hPa : - Rated speed rpm : 400
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 14.40 : + 0.05	Del. quantity cm3/1000 strokes : 230.0 Tolerance
Rated speed rpm		cm3/1000 strokes : +- 1.0
rack travel mm Tolerance mm	: 12.30 : + 0.10	Check tolerance cm3/1000s. : +- 4.0 Spreed
Rated speed rpm rack travel mm Tolerance mm	: 850 : 13.80	Tolerance cm3/1000 strokes : 10.0 Check tolerance
Tolerance mm	: +- 0.20	+ cm3/1000s. : 14.0
ANEROID/ALTITUDE COMPENSATOR TEST		BREAKAWAY
SETTING		Rack travel in mm: 13.40 Rated speed rpm: 1085 Tolerance 1/min: +- 5
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1700	STARTING FUEL DELIVERY
MEASUREMENT		+ Rated speed rpm : 100 - rack travel mm : 8.70
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 1050	Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 130.0 Tolerance
Rated speed rpm	: 1050	cm3/1000 strokes : + 15.0 Check tolerance cm3/1000s. : +- 19.0
Pressure hPa rack travel mm Tolerance mm	: 420 : 9.70 : + 0.20	
Pressure hPa rack travel mm Tolerance mm	: 830 : 12.40 : + 0.05	LOW IDLE Rated speed rpm : 300 rack travel mm : 4.90 Tolerance mm : + 0.20 Del. quantity
FUEL DELIVERY CHA	RACTERISTICS	+ cm3/1000 strokes : 23.0 + Tolerance + cm3/1000 strokes : +- 3.0 +

Check tolerance cm3/1000s. : +- 6.0 Spreed

Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : 8.0

12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 01.08.94 : ISO 4113 Test oil

Combination No. : 0 402 646 797

Injection pump

Pump designation : PE6P120A320LS7858 EP type number : 0 412 626 875

Governor

Governer design. : RQ300/1050PA1030-13 Governer no. : 0 421 801 730

Cust. part No. : 0230748902

Customer-spec. information Customer : MB-NFZ : 0M401 LA Motor Power KW : 180.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance *C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

: 110 min. L/h Tolerance l/h: + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar : + 1.5 Tolerance bar

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 5.55 : +- 0.05 Tolerance mm Check

tolerance mm : \leftarrow 0.10

Rack travel in mm: 20.50 Tolerance mm : ← 0.50

Firing order : 6-3-5-2-4-

: 1-

Phasing : 0-60-120-180-240

: -300-360 : +- 0.30 Tolerance

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no.

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 11.25 : ← 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 173.0

Tolerance + 1.0 +	Rated speed rpm : 1280
CMS/ TODO Strokes: +- 1.0	Rated speed rpm : 1280 guide sleeve
Check tolerance	travel mm : 11.50
cm3/1000s. : + 4.0	Tolerance mm : +- 0.50
+	
Spreed +	GUIDE SLEEVE POSITION
cm3/1000 strokes : 5.0	GOIDE SEEEVE FOSTITON
	Rated speed rpm : 600
Check tolerance	
cm3/1000s. : 9.0	Rack travel in mm : 20.00 Tolerance mm : ← 0.80
Rated speed rpm : 300	roterance inn
Traces opecs (pill : 500	
Rack travel in mm: 5.20	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : + 0.30	Dated aread area a 4050
Del. quantity + cm3/1000 strokes : 19.0 +	Rated speed rpm : 1050 Aneroid pressure
Tolerance	hPa : 700
cm3/1000 strokes : + 3.0 +	Del. quantity
Check tolerance	cm3/1000 strokes : 173.0
cm3/1000s. : + 6.0 + 5preed	Tolerance cm3/1000 strokes : +- 1.0
Tolerance	Check tolerance
cm3/1000 strokes : 6.0 +	cm3/1000s. : +- 4.0
Check tolerance +	Spreed
cm3/1000s. : 10.0 +	Tolerance cm3/1000 strokes : 5.0
I	Check tolerance
(
(B) SETTING OF INJECTION PUMP +	cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	cm3/1000s. : 9.0
	cm3/1000s. : 9.0
WITH GOVERNOR	
GUIDE SLEEVE TRAVEL	CONTROL LEVER
GUIDE SLEEVE TRAVEL Rated speed rpm : 300	CONTROL LEVER
GUIDE SLEEVE TRAVEL Rated speed rpm : 300	CONTROL LEVER control lever position degree : 91.0
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.48	CONTROL LEVER
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.48 Tolerance mm : + 0.10	CONTROL LEVER control lever position degree : 91.0
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.48 Tolerance mm : + 0.10 Rated speed rpm : 1108	CONTROL LEVER control lever position degree : 91.0 tolerance degree : +- 4.0 RATED SPEED
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.48 Tolerance mm : + 0.10 Rated speed rpm : 1108 guide sleeve	CONTROL LEVER control lever position degree : 91.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.25
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.48 Tolerance mm : + 0.10 Rated speed rpm : 1108 guide sleeve travel mm : 6.39	control lever position degree : 91.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.25 Rated speed rpm : 1098
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.48 Tolerance mm : + 0.10 Rated speed rpm : 1108 guide sleeve travel mm : 6.39 Tolerance mm : + 0.10	control lever position degree : 91.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.25 Rated speed rpm : 1098 Tolerance 1/min : + 8
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.48 Tolerance mm : + 0.10 Rated speed rpm : 1108 guide sleeve travel mm : 6.39 Tolerance mm : + 0.10 Rated speed rpm : 1050	control lever position degree : 91.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.25 Rated speed rpm : 1098 Tolerance 1/min : +- 8 rack travel mm : 4.00
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.48 Tolerance mm : + 0.10 Rated speed rpm : 1108 guide sleeve travel mm : 6.39 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve	control lever position degree : 91.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.25 Rated speed rpm : 1098 Tolerance 1/min : +- 8 rack travel mm : 4.00 Rated speed rpm : 1175
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.48 Tolerance mm : + 0.10 Rated speed rpm : 1108 guide sleeve travel mm : 6.39 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.00	control lever position degree : 91.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.25 Rated speed rpm : 1098 Tolerance 1/min : +- 8 rack travel mm : 4.00
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.48 Tolerance mm : + 0.10 Rated speed rpm : 1108 guide sleeve travel mm : 6.39 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve	control lever position degree : 91.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.25 Rated speed rpm : 1098 Tolerance 1/min : +- 8 rack travel mm : 4.00 Rated speed rpm : 1175
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.48 Tolerance mm : + 0.10 Rated speed rpm : 1108 guide sleeve travel mm : 6.39 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 392	control lever position degree : 91.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.25 Rated speed rpm : 1098 Tolerance 1/min : +- 8 rack travel mm : 4.00 Rated speed rpm : 1175 Tolerance 1/min : +- 15 rack travel mm : 0.75 Tolerance mm : +- 0.75
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.48 Tolerance mm : + 0.10 Rated speed rpm : 1108 guide sleeve travel mm : 6.39 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 392 guide sleeve	control lever position degree : 91.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.25 Rated speed rpm : 1098 Tolerance 1/min : +- 8 rack travel mm : 4.00 Rated speed rpm : 1175 Tolerance 1/min : +- 15 rack travel mm : 0.75
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.48 Tolerance mm : + 0.10 Rated speed rpm : 1108 guide sleeve travel mm : 6.39 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 392 guide sleeve travel mm : 392 guide sleeve travel mm : 4.64	control lever position degree : 91.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.25 Rated speed rpm : 1098 Tolerance 1/min : +- 8 rack travel mm : 4.00 Rated speed rpm : 1175 Tolerance 1/min : +- 15 rack travel mm : 0.75 Tolerance mm : +- 0.75
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.48 Tolerance mm : + 0.10 Rated speed rpm : 1108 guide sleeve travel mm : 6.39 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 392 guide sleeve	control lever position degree : 91.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.25 Rated speed rpm : 1098 Tolerance 1/min : +- 8 rack travel mm : 4.00 Rated speed rpm : 1175 Tolerance 1/min : +- 15 rack travel mm : 0.75 Tolerance mm : +- 0.75
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.48 Tolerance mm : + 0.10 Rated speed rpm : 1108 guide sleeve travel mm : 6.39 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 392 guide sleeve travel mm : 4.64 Tolerance mm : + 0.10 Rated speed rpm : 4.64 Tolerance mm : + 0.10	control lever position degree : 91.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.25 Rated speed rpm : 1098 Tolerance 1/min : +- 8 rack travel mm : 4.00 Rated speed rpm : 1175 Tolerance 1/min : +- 15 rack travel mm : 0.75 Tolerance mm : +- 0.75
GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.48 Tolerance mm : + 0.10 Rated speed rpm : 1108 guide sleeve travel mm : 6.39 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 392 guide sleeve travel mm : 4.64 Tolerance mm : + 0.10 Rated speed rpm : 4.64 Tolerance mm : + 0.10	control lever position degree : 91.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.25 Rated speed rpm : 1098 Tolerance 1/min : +- 8 rack travel mm : 4.00 Rated speed rpm : 1175 Tolerance 1/min : +- 15 rack travel mm : 0.75 Tolerance mm : +- 0.75 Rated speed rpm : 1300
WITH GOVERNOR GUIDE SLEEVE TRAVEL Rated speed rpm : 300 guide sleeve travel mm : 2.48 Tolerance mm : + 0.10 Rated speed rpm : 1108 guide sleeve travel mm : 6.39 Tolerance mm : + 0.10 Rated speed rpm : 1050 guide sleeve travel mm : 6.00 Tolerance mm : + 0.10 Rated speed rpm : 392 guide sleeve travel mm : 4.64 Tolerance mm : + 0.10 Rated speed rpm : 4.64 Tolerance mm : + 0.10	control lever position degree : 91.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : 10.25 Rated speed rpm : 1098 Tolerance 1/min : +- 8 rack travel mm : 4.00 Rated speed rpm : 1175 Tolerance 1/min : +- 15 rack travel mm : 0.75 Tolerance mm : +- 0.75 Rated speed rpm : 1300

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control lever position degree tolerance degree		START CUT-OUT	400
Testing:		Rated speed rpm Rated speed rpm	
Rated speed rpm rack travel mm Tolerance mm	: 300 : 5.20 : +- 0.10	Check speed 1/min Check	: > 80
rack travel mm Rated speed rpm		speed 1/min	: < 240
Tolerance 1/min		FUEL DELIVERY CHAI	RACTERISTICS
Rated speed rpm	: 200	Aneroid pressure	: 700
CRT mm min.	: > 7.60	Rated speed rpm Del. quantity	
TORQUE CONTROL		cm3/1000 strokes Tolerance	
Rated speed rpm		+ cm3/1000 strokes + Check tolerance - cm3/1000s.	: +- 5.0
rack travel mm Tolerance mm		Spreed Tolerance	: 3.0
Rated speed rpm rack travel mm Tolerance mm	: 550 : 11.25	- cm3/1000 strokes - Check tolerance	: 8.0
Tolerance mm	: + 0.05	cm3/1000s.	: 12.0
ANEROID/ALTITUDE		+ Aneroid pressure + hPa	: -
COMPENSATOR TEST		+ Rated speed rpm + Del. quantity	
SETTING		cm3/1000 strokes Tolerance	
Rated speed rpm	: 400	+ cm3/1000 strokes + Check tolerance	
Pressure hPa rack travel mm Tolerance mm	: 11.25	+ cm3/1000s. + Spreed + Tolerance	: +- 4.0
MEASUREMENT	. +- 0.09	cm3/1000 strokes Check tolerance	: 8.0
Pressure hPa	•	cm3/1000s.	: 12.0
Rated speed rpm		DDEALAHAY	
rack travel mm Tolerance mm	: 10.30 : + 0.15	+ BREAKAWAY	
Rated speed rpm	: 400	Rack travel in mm Rated speed rpm	
Pressure hPa rack travel mm Tolerance mm	: 250 : 10.90 : +- 0.10	Tolerance 1/min	
Pressure hPa rack travel mm	: 200 : 10.55	STARTING FUEL DELI	VERY
Tolerance mm	: +- 0.10	Rated speed rpm Del. quantity	: 100
		+ cm3/1000 strokes	: 135.0

Tolerance		
cm3/1000 strokes	: +	15.0
Check tolerance		
cm3/1000s.	: +	19.0

LOW IDLE

Rated speed rpm	:	300
rack travel mm	:	5.20
Tolerance mm	; +-	0.30
Del. quantity		
cm3/1000 strokes	:	19.0
Tolerance		
cm3/1000 strokes	: +	3.0
Check tolerance		
cm3/1000s.	; +	6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance		40.0
cm3/1000s.		10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.04.96 Test oil : ISO 4113

Combination No. : 0 402 648 920

Injection pump

Pump designation : PE8P12DA32OLS7844 EP type number : 0 412 628 860

Governor

Governer design. : RQV350...1050PA870

: -16

Governer no. : 0 421 813 953

Cust. part No. :

Customer—spec. information
Customer : MB-NFZ
Motor : OM442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 110 Tolerance l/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 2.5

× length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3 : -5-4-1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : + 0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm: 14.30

Rack travel in mm : 14.30 Tolerance mm : + 0.10

Tolerance mm : +- 0.10

Del. quantity cm3/1000 strokes : 257.5	guide sleeve travel mm : 10.05 Tolerance mm : +- 0.25
cm3/1000 strokes : + 1.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : +- 4.0	Rated speed rpm : 1125
Spreed Tolerance cm3/1000 strokes : 5.0	Rack travel in mm : 17.25 Tolerance mm : + 0.75
Check tolerance cm3/1000S. : 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 350	Rated speed rpm : 600 Aneroid pressure hPa : 1100
Rack travel in mm: 5.80 Tolerance mm: + 0.30 Del. quantity	Del. quantity cm3/1000 strokes : 257.5 Tolerance
cm3/1000 strokes : 19.0 +	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000 strokes : + 3.0 + Check tolerance	cm3/1000s. : +- 4.0 Spreed
cm3/1000S. : + 6.0 + Spreed + Tolerance	Tolerance cm3/1000 strokes : 5.0 Check tolerance
cm3/1000 strokes : 6.0 +	cm3/1000s. : 9.0
cm3/1000s. : 10.0	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control Lever position degree : 119.0 tolerance degree : + 4.0
GUIDE SLEEVE TRAVEL	-
Rated speed rpm : 350 + guide sleeve	RATED SPEED rack travel mm : 14.30
travel mm : 1.55 Tolerance mm : + 0.25	Rated speed rpm : 1095 Tolerance 1/min : + 5
Rated speed rpm : 1108 guide sleeve travel mm : 8.05	rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : + 15
Tolerance mm : + 0.25	rack travel mm : 0.50
Rated speed rpm : 570 guide sleeve	Tolerance mm : + 0.50 Rated speed rpm : 1300
travel mm : 3.55 Tolerance mm : + 0.25	
Rated speed rpm : 900	LOW IDLE
travel mm : 5.65 Tolerance mm : + 0.25	control lever position degree : 67.0
Rated speed rpm : 1204	position degree : 67.0 tolerance degree : + 4.0
m4.0	

			+	Check
Testing:			Ì	speed 1/m
Rated speed rpm rack travel mm Tolerance mm	: 35 : +- 0		+	FUEL DELI
Rated speed rpm	: 25	50	‡	Aneroid p hPa
CRT mm min.	: > 6	5.60	‡	Rated spe Del. quan
Rated speed rpm	: 45	50	‡	cm3/1000 Tolerance
			‡	cm3/1000 Check tol
TORQUE CONTROL			‡	cm3/1000S
Rated speed rpm rack travel mm	: 60	00 30	Ì	Aneroid p
Tolerance mm	: +- `C	1.10	+	Rated spe
Rated speed rpm	: 105	in .	‡	Del. quan
rack travel mm	: 15	3.30	+	Tolerance
Tolerance mm	: +- 0	1.10	<u>†</u>	cm3/1000 Check tol
Rated speed rpm	: 80	0	Ţ	cm3/1000S
rack travel mm	: 15	.30	+	Amanadal w
Tolerance mm	: + 0	1.10	Ţ	Aneroid p hPa
			 +	Rated spe
ANEROID/ALTITUDE COMPENSATOR TEST			1	Del. quan cm3/1000
COM ENDATOR TEST			+	Tolerance
			+	cm3/1000 Check tol
MEASUREMENT			Ţ	cm3/1000s
Pressure hPa	: 29	nO.	+	
rack travel mm		.50	Ţ	BREAKAWAY
Tolerance mm	: + 0	.05	+	
Pressure hPa	: 78		Ī	Rack trave
rack travel mm		.50	+	Rated spe
Tolerance mm	: +- 0	.10	1	Tolerance
Pressure hPa	: 145		+	
rack travel mm Tolerance mm		.30 .05	1	STARTING
			+	
Pressure hPa rack travel mm	: 155	0 .70	<u>†</u>	Rated spec
Tolerance mm		.10	Ŧ	cm3/1000
			+	Tolerance
START CUT-OUT			 1	cm3/1000 : Check tole
	_	400	+	cm3/1000s
Rated speed rpm Rated speed rpm		100 270	1	
•	• • •	_, _	+	
Check speed 1/min	: >	80	İ	LOW IDLE
pecu i/mili	. /	30	T	COM INCE

speed 1/min	:	<		290		
FUEL DELIVERY CHA	RA	CTE	RIS	TICS	 	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	::		180 105			
Tolerance	•					
cm3/1000 strokes Check tolerance	•	+-		1.5		
cm3/1000s.	:	+-	•	4.5		
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.		+	500	0 4.0 2.0 5.0		
	•			+.0	 	
BREAKAWAY						
Rack travel in mm Rated speed rpm Tolerance 1/min	:	+-	14. 1095	.30 5 5		
STARTING FUEL DELI	EVE	RY				
Rated speed rpm Del. quantity	:		100)		
cm3/1000 strokes	:		270	0.0		
Tolerance cm3/1000 strokes	:	+-	10	0.0		
Check tolerance cm3/1000S.	:	+	14	.0		
LOW IDLE						

Rated speed rpm rack travel mm	:	350
Tolerance mm	; ; +	5.80 0.30
Del. quantity		40.0
cm3/1000 strokes Tolerance	:	19.0
cm3/1000 strokes	; +-	3.0
Check tolerance cm3/1000s.		6.0
Spreed	•	0.0
Tolerance cm3/1000 strokes		6.0
Check tolerance	•	0.0
cm3/1000s.	:	10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 16.04.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 736 888

Injection pump

Pump designation : PES6P120A120RS7390

EP type number : 0 412 726 945

Governor

Governer design. : RQV350...1100PA1237K

Governer no. : 0 421 815 475

Cust. part No. : 3283278

Customer-spec. information Customer : CUMMINS : 6CTAA Motor Power KW : 162.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Overflow quantity

90 min. L/h min. l/h : 90 Tolerance l/h : +- 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar : +- 1.5 Tolerance bar

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

rest pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm Tolerance mm 3.30 : + 0.05

Check tolerance mm : + 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 : + 0.30

Check

Tolerance

tolerance °NW : + 0.50

Start of delivery blocking

*NW after s.o.d. : 7.70 : + 0.50Tolerance

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 12.60

Tolerance mm : + 0.05	
Do I am to the day of the contract of the cont	Rated speed rpm : 1380
Del. quantity : 164.0 +	guide sleeve
cm3/1000 strokes : 164.0 +	travel mm : 13.50 Tolerance mm : +- 0.50
Tolerance	roter drice mar . += 0.50
cm3/1000 strokes : +- 1.0	
	GUIDE SLEEVE POSITION
Check tolerance +	
cm3/1000s. : +- 4.0 +	Rated speed rpm : 1200
Spreed +	Rack travel in mm : 11.60
Tolerance +	Tolerance mm : +- 1.50
cm3/1000 strokes : 5.0	
Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : 9.0	TOLE LOAD DELIVERY AT TOLE LOAD STOP
	Rated speed rpm : 1100
Rated speed rpm : 350	Aneroid pressure
+	hPa : 1500
Rack travel in mm: 4.80	Del. quantity
Tolerance mm : + 0.30	cm3/1000 strokes : 164.0
Del. quantity +	Tolerance
cm3/1000 strokes : 18.0	cm3/1000 strokes : +- 1.0
Tolerance + 3.0 +	Check tolerance cm3/1000s. : +- 4.0
Check tolerance	Spreed
cm3/1000s. : + 5.0	Tolerance
Spreed	cm3/1000 strokes : 5.0
Tolerance	Check tolerance
cm3/1000 strokes : 7.0 +	cm3/1000s. : 9.0
Check tolerance +	
cm3/1000s. : 11.0 +	
†	
(D) CETTING OF THECTION DUMP	CONTROL LEVER
(B) SETTING OF INJECTION PUMP + WITH GOVERNOR +	control lever
WITH GOVERNOR	position degree : 69.0
	tolerance degree : + 4.0
GUIDE SLEEVE TRAVEL	
+	control lever
Rated speed rpm : 350 +	position degree : 123.0
guide sleeve +	tolerance degree : +- 4.0
travel mm : 1.93	0470 0000
Tolerance mm : + 0.20	RATED SPEED
Rated speed rpm : 1159	rack travel mm : 11.60
guide steeve	Rated speed rpm : 1145
travel mm : 10.27	Tolerance 1/min : + 5
Tolerance mm : +- 0.15	
+	rack travel mm : 4.00
Rated speed rpm : 710 +	Rated speed rpm : 1230
guide sleeve	Tolerance 1/min : + 15
travel mm : 5.79	nock though the C. E.C.
Tolerance mm : \leftarrow 0.25	rack travel mm : 0.50 Tolerance mm : +- 0.50
Rated speed rpm : 420	Rated speed rpm : 1350
guide sleeve	Marca opera i pili 1 1000
travel mm : 4.28	
Tolerance mm : +- 0.25	
·	

FOM IDFE	
control lever position degree tolerance degree	
control lever position degree tolerance degree	: 21.0 : + 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 4.80 : + 0.10
Rated speed rpm	: 250
CRT mm min.	: > 7.70
Rated speed rpm	: 350
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 12.60 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 12.30 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 900 : 12.35 : + 0.15
Rated speed rpm rack travel mm Tolerance mm	: 600 : 12.00 : + 0.15
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1100 : 1500 : 12.60 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm	: - 1100

rack travel mm Tolerance mm	: 10.25 : +- 0.20
rocerance iiiii	. +- 0.20
Rated speed rpm	: 1100
Pressure hPa	: 170
rack travel mm Tolerance mm	: 11.10 : +- 0.20
Pressure hPa	: 330
rack travel mm	: 12.10
Tolerance mm	: ← 0.05
START CUT-OUT	
Rated speed rpm	: > 100
Rated speed rpm	: < 280
Check speed 1/min	: > 80
Check	: > 00
speed 1/min	: < 300
Aneroid pressure	. 1500
hPa Rated speed rpm	: 1500 : 750
Del. quantity cm3/1000 strokes	: 155.0
Toterance	
cm3/1000 strokes Check tolerance	: + 3.0
cm3/1000s.	: +- 6.0
Spreed Tolerance	
cm3/1000 strokes Check tolerance	: 12.0
cm3/1000s.	: 16.0
Aneroid pressure	
hPa Rated speed rpm	: 500
Del. quantity	
cm3/1000 strokes Tolerance	: 107.0
cm3/1000 strokes	: +- 2.0
cm3/1000S.	: +- 4.0
Check tolerance	

Rack travel in mm : 11.60
Rated speed rpm : 1145
Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : + 0.50
Del. quantity
cm3/1000 strokes : 180.0
Tolerance
cm3/1000 strokes : +- 20.0
Check tolerance
cm3/1000s. : + 24.0

LOW IDLE

Rated speed rpm 350 4.80 rack travel mm Tolerance mm 0.30 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance 7.0 cm3/1000 strokes : Check tolerance cm3/1000s. 11.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 16.04.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 736 889

Injection pump

Pump designation : PES6P120A120RS7390

EP type number : 0 412 726 945

Governor

Governer design. : RQV350...1100PA1244K

Governer no. : 0 421 815 477

Cust. part No. : 3283279

Customer-spec. information Customer : CUMMINS Motor : 6CTAA : 179.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Overflow quantity

90 min. l/h : 90 Tolerance l/h : + 10.0 min. L/h

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.30 Tolerance mm : + 0.05

Check tolerance mm : + 0.10

Rack travel in mm: 20.50 Tolerance mm : \leftarrow 0.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300 : +- 0.30 Tolerance

Check tolerance "NW : +- 0.50

Start of delivery blocking

*NW after s.o.d. : 7.70 : +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 13.00

Tolerance mm : +- 0.05 +	
+	Rated speed rpm : 1380
Del. quantity + cm3/1000 strokes : 173.0 +	guide sleeve travel mm : 13.50
	Tolerance mm : +- 0.50
Tolerance + 1.0 +	
<u> </u>	GUIDE SLEEVE POSITION
Check tolerance + 4.0 +	Rated speed rpm : 1195
Cm5/10005. ; == 4.0	Rated speed rpm : 1195
Spreed	Rack travel in mm: 12.00
Tolerance + cm3/1000 strokes : 5.0 +	Tolerance mm : + 1.30
Check tolerance + cm3/1000s. : 9.0 +	FULL LOAD DELIVERY AT FULL LOAD STOP
+	Rated speed rpm : 1100
Rated speed rpm : 350	Aneroid pressure hPa : 1500
Rack travel in mm: 4.60	Del. quantity
Tolerance mm : + 0.30	cm3/1000 strokes : 173.0
Del. quantity + cm3/1000 strokes : 18.0 +	Tolerance cm3/1000 strokes : +- 1.0
Tolerance	Check tolerance
cm3/1000 strokes : + 3.0 + Check tolerance	cm3/1000S. : +- 4.0 Spreed
cm3/1000s. : + 5.0	Tolerance
Spreed	cm3/1000 strokes : 5.0
Tolerance + cm3/1000 strokes : 7.0 +	Check tolerance cm3/1000s. : 9.0
Check tolerance +	
cm3/1000s. : 11.0	
+	CONTROL LEVER
(B) SETTING OF INJECTION PUMP + WITH GOVERNOR +	control lever
WITH GOVERNOR	position degree : 68.0
CHINE OF EENE TOWER	tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	control lever
Rated speed rpm : 350	position degree : 122.0
guide sleeve † 1.93	tolerance degree : +- 4.0
Tolerance mm : + 0.20	RATED SPEED
Rated speed rpm : 1159	rack travel mm : 12.00
Rated speed rpm : 1159 + guide sleeve +	Rated speed rpm : 1145
travel mm : 10.27	Tolerance 1/min : + 5
Tolerance mm : + 0.15	rack travel mm : 4.00
Rated speed rpm : 710 +	Rated speed rpm : 1230
guide sleeve + travel mm : 5.79 +	Tolerance 1/min : + 15
Tolerance mm : + 0.25	rack travel mm : 0.50
Fotod around nam : /20	Tolerance mm : + 0.50 Rated speed rpm : 1350
Rated speed rpm : 420 + guide sleeve +	Rated speed rpm : 1350
travel mm : 4.28	
Tolerance mm : +- 0.25 +	

		Ţ.	Danasıı
LOW IDLE			Pressui rack ti Tolerar
control lever		I	Pressui
	: 74.0	1	rack ti
position degree tolerance degree	: ← 4.0	1	Tolera
		+	
control lever		+	
position degree tolerance degree	: 20.0	+	START (
tolerance degree	: +- 4.0	+	
Testing:		T + + +	Rated s Rated s
	700	Ť	-1 1
Rated speed rpm	: 350	†	Check
rack travel mm	: 4.60 : + 0.10	†	speed 1
Tolerance mm	: +- 0.10	†	Check
Dottod apped to	: 250	T	speed 1
Rated speed rpm	: 250	Ī	
CRT mm min.	: > 7.50	I	FUEL DE
		1	
Rated speed rpm	: 350	+	Aneroid
		†	hPa
		+	Rated s
TORQUE CONTROL		†	Del. qu
5-4-4	4400	†	cm3/100
Rated speed rpm		Ť	Tolerar
rack travel mm Tolerance mm	: 13.00 : +- 0.05	T	Check t
roterance im	; 0.05	Ī	cm3/100
Rated speed rpm	: 700	I	Spreed
rack travel mm	. 13 15	I	Tolerar
Tolerance mm	: 13.15 : + 0.10	1	cm3/100
rocci di loc libir		1	Check t
Rated speed rpm	: 500	1	cm3/100
rack travel mm	: 12.25	1	
Rated speed rpm rack travel mm Tolerance mm	: +- 0.15	+	Aneroid
		+	hPa
		 +	Rated s
ANEROID/ALTITUDE		+	Del. qu
COMPENSATOR TEST		+	cm3/100
		+	Toleran
		t	cm3/100
SETTING		†	Check t
	700	†	cm3/100
Rated speed rpm	: 700	†	
Pressure hPa	: 1500	†	DDEAVAL
rack travel mm	: 13.20 : + 0.05	Ť	BREAKAW
Tolerance mm	; 0.05	Ī	
MEASUREMENT		I	Rack tr
		1	Rated s
Pressure hPa	: -	1	Toleran
Rated speed rpm	700	1	
ack travel mm	: 10.20	1	
Tolerance mm	: + 0.20	1	
		1	STARTIN
Rated speed rpm	: 700	+	
the man of the same	· <u></u>	•	

Pressure hPa rack travel mm Tolerance mm	: 140 : 11.10 : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 300 : 12.60 : + 0.05
START CUT-OUT	
Rated speed rpm Rated speed rpm	: > 100 : < 290
Check speed 1/min Check	: > 80
speed 1/min	: < 300
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 3.0 : + 6.0 : 8.0 : 12.0 : 500 : 109.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 1145
STARTING FUEL DEL	IVERY

LOW IDLE

Rated speed rpm 350 rack travel mm 4.60 Tolerance mm 0.30 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes 7.0 Check tolerance cm3/1000s. 11.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.04.96 Test oil : ISO 4113

Combination No. : 0 402 736 892

Injection pump

Pump designation : PES6P120A120RS7400 EP type number : 0 412 726 950

Governor

Governer design. : RQV350...1100PA1244

: -1K

Governer no. : 0 421 815 488

Cust. part No. : 3282610

Customer—spec. information Customer : CUMMINS Motor : 6CTAA Power KW : 221.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 100 Tolerance l/h : + 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.30
Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.50

Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance "NW : +- 0.50

Start of delivery blocking

*NW after s.o.d.: 7.70

Tolerance : + 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 14.60

Tolerance mm : +- 0.05	1700
Dol guantity	_
Del. quantity cm3/1000 strokes : 209.0	travel mm : 13.50
	+ Tolerance mm : +- 0.50
Tolerance	
cm3/1000 strokes : +- 1.0	
	+ GUIDE SLEEVE POSITION
Check tolerance	+
cm3/1000s. : +- 4.0	+ Rated speed rpm : 1210
The state of the s	- † Rack travel in mm: 13.60
Spreed Tolerance	+ Rack travel in mm : 13.60 + Tolerance mm : + 2.00
cm3/1000 strokes : 5.0	Toterarice initi
11101 1000 1110100 1 310	
Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : 9.0	+
	+ Rated speed rpm : 1100
Rated speed rpm : 350	+ Aneroid pressure
Davids Assessed Statement & AC	+ hPa : 1500
Rack travel in mm : 5.10 Tolerance mm : + 0.30	the Del. quantity to cm3/1000 strokes : 209.0
Tolerance mm : +- 0.30 Del. quantity	t cm3/1000 strokes : 209.0 Tolerance
cm3/1000 strokes : 25.0	- cm3/1000 strokes : +- 1.0
Tolerance	- Check tolerance
cm3/1000 strokes : + 3.0	+ cm3/1000s. : + 4.0
Check tolerance	+ Spreed
cm3/1000s. : +- 5.0	† Tolerance
Spreed	+ cm3/1000 strokes : 5.0
Tolerance	+ Check tolerance
cm3/1000 strokes : 7.0	+ cm3/1000s. : 9.0
Check tolerance cm3/1000s. : 11.0	Ť
CHD/ (0005	
	- CONTROL LEVER
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	+ control lever
	† position degree : 66.0
	tolerance degree : + 4.0
GUIDE SLEEVE TRAVEL	†
Rated speed rpm : 350	+ control lever + position degree : 120.0
guide sleeve	tolerance degree : + 4.0
travel mm : 1.93	-
Tolerance mm : + 0.20	+ RATED SPEED
	+
Rated speed rpm : 1159	rack travel mm : 13.60
guide sleeve	Rated speed rpm : 1145
travel mm : 10.28 Tolerance mm : +- 0.15	Tolerance 1/min : +- 5
Tolerance mm : +- 0.15	rack travel mm : 4.00
Rated speed rpm : 710	Rated speed rpm : 1245
guide sleeve	Tolerance 1/min : + 15
travel mm : 5.80	+
Tolerance mm : +- 0.25	rack travel mm : 0.50
- · · · · · · · · · · · · · · · · · · ·	+ Tolerance mm : + 0.50
Rated speed rpm : 430	Rated speed rpm : 1350
guide sleeve travel mm : 4.33	Ī
travel mm : 4.33 Tolerance mm : +- 0.25	I
TO COT GITTE INTO	1

		+ rack tr	avelmm : 10	i. 45
LOW IDLE			ce man : + 0	
		Rated s	peed rpm : 110	0
control lever position degree tolerance degree		Pressur + rack tr + Toleran	e hPa : 88 avel mm : 13 ce mm : +- 0	. 20
control lever position degree tolerance degree		+ rack tr	e hPa : 24 avel mm : 11 ce mm : +- 0	0 .20 .05
Testing:		START C	UT-OUT	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.10 : + 0.10	+ Rated s	peed rpm :>	100 290
Rated speed rpm CRT mm min.		Check speed 1	/min :>	80
Rated speed rpm			/min : < :	300
TARALE CONTROL		FUEL DE	LIVERY CHARACTERIS	TICS
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 14.60 : + 0.05 : 750 : 14.20 : + 0.10 : 900 : 14.50 : + 0.15 : 600 : 14.10	hPa Rated sp Del. qui cm3/1000 Tolerand cm3/1000 Check to cm3/1000 Spreed Tolerand cm3/1000 Check to cm3/1000 Aneroid hPa Rated sp	O strokes : +- 3 clerance OS. : +- 6 ce O strokes : 16 clerance OS. : 16 pressure peed rpm : 500	0 8.0 3.0 6.0 2.0 6.0
ANEROID/ALTITUDE COMPENSATOR TEST		Del. qua cm3/1000 Tolerand	antity Distrokes : 111 Se	1.0
SETTING			olerance	2.0 4.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1100 : 1500 : 14.60 : + 0.05	BREAKAWA		
MEASUREMENT			avel in mm: 13.	
Pressure hPa Rated speed rpm	: 1100		peed rpm : 1145 se 1/min : +-	5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 180.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : +- 24.0

LOW IDLE

350 Rated speed rpm rack travel mm 5.10 0.30 Tolerance mm Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes 3.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes 7.0 Check tolerance cm3/1000s. 11.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 16.04.96 Test oil : ISO 4113

Combination No. : 0 402 736 893

Injection pump

Pump designation : PES6P120A120RS7400 EP type number : 0 412 726 950

Governor

Governer design. : RQV350...1100PA1244

: -2K

: 0 421 815 489 Governer no.

Cust. part No. : 3282609

Customer-spec. information : CUMMINS Customer Motor : 6CTAA : 206.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Overflow quantity

min. L/h 125 Tolerance l/h : +- 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 3.30 Tolerance mm : + 0.05 Check

tolerance mm : + 0.10

Rack travel in mm : 20.50 : +- 0.50 Tolerance mm

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.30

Check

: +- 0.50 tolerance °NW

Start of delivery blocking

*NW after s.o.d. : 7.70

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 14.80 Tolerance mm: + 0.05	guide sleeve travel mm : 4.70 Tolerance mm : +- 0.25
Del. quantity cm3/1000 strokes : 211.0	Rated speed rpm : 1380 guide sleeve travel mm : 13.50
Tolerance cm3/1000 strokes : + 1.0	Tolerance mm : + 0.50
Check tolerance cm3/1000S. : + 4.0	GUIDE SLEEVE POSITION
Spreed Tolerance	Rated speed rpm : 1215 Rack travel in mm : 13.30
cm3/1000 strokes : 5.0	Tolerance mm : +- 2.00
Check tolerance cm3/1000s. : 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 350	Rated speed rpm : 1050 Aneroid pressure
Rack travel in mm: 5.10	hPa : 1500
Tolerance mm : + 0.30 +	Del. quantity
Del. quantity	cm3/1000 strokes : 211.0
cm3/1000 strokes : 25.0 + Tolerance +	Tolerance cm3/1000 strokes : +- 1.0
cm3/1000 strokes : + 3.0 +	Check tolerance
Check tolerance +	cm3/1000s. : +- 4.0
cm3/1000s. : + 5.0	Spreed
Spreed	Tolerance
Tolerance cm3/1000 strokes : 7.0	cm3/1000 strokes : 5.0 Check tolerance
cm3/1000 strokes : 7.0 + Check tolerance	cm3/1000s. : 9.0
cm3/1000s. : 11.0	CHS/ (0003 9.0
T	
(B) SETTING OF INJECTION PUMP	CONTROL LEVER
WITH GOVERNOR	SOMMOL LEVEL
+	control lever
+	position degree : 66.0
GUIDE SLEEVE TRAVEL	tolerance degree : +- 4.0
Rated speed rpm : 350	control lever
guide sleeve	position degree : 122.0
travel mm : 1.93	tolerance degree : + 4.0
Tolerance mm : +- 0.20	
+	RATED SPEED
Rated speed rpm : 1159	47.00
guide sleeve	rack travel mm : 13.80
travel mm : 10.28	Rated speed rpm : 1145 Tolerance 1/min : + 5
Tolerance mm : + 0.15	Tolerance 1/min : + 5
Rated speed rpm : 710	rack travel mm : 4.00
guide sleeve +	Rated speed rpm : 1245
travel mm : 5.79	Tolerance 1/min : + 15
Tolerance mm : + 0.25	nock though me
Dated speed speed speed	rack travel mm ! 0.50 Tolerance mm : + 0.50
Rated speed rpm : 500	Tolerance mm : +- 0.50 Rated speed rpm : 1350
Ť	nated speed (bill : 1330

		†
LOW IDLE		Pressure hPa : 880 rack travel mm : 13.20 Tolerance mm : +- 0.20
control lever position degree tolerance degree	: 73.0 : + 4.0	Pressure hPa : 240 rack travel mm : 11.20 Tolerance mm : + 0.05
control lever position degree tolerance degree	: 20.0 : ← 4.0	START CUT-OUT
Testing:		Rated speed rpm : > 100 Rated speed rpm : < 280
Rated speed rpm rack travel mm Colerance mm	: 350 : 5.10 : + 0.10	Check speed 1/min : > 80 Check
Rated speed rpm	: 250	+ speed 1/min : < 300
CRT mm min.	: > 8.20	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 350	Aneroid pressure hPa : 1500
TORQUE CONTROL		Rated speed rpm : 650 Del. quantity cm3/1000 strokes : 197.0
Rated speed rpm rack travel mm Tolerance mm	: 14.80	Tolerance + cm3/1000 strokes : + 3.0 - Check tolerance
lated speed rpm rack travel mm folerance mm	: 650	cm3/1000s. : + 6.0 Spreed Tolerance
olerance mm ated speed rpm		+ cm3/1000 strokes : 12.0 + Check tolerance + cm3/1000s. : 16.0
ack travel mm olerance mm	: 14.70	Aneroid pressure
NEROID/ALTITUDE		+ Rated speed rpm : 500 + Del. quantity
OMPENSATOR TEST		+ cm3/1000 strokes : 111.0 + Tolerance + cm3/1000 strokes : + 2.0
SETTING		Check tolerance cm3/1000s. : + 4.0
ated speed rpm ressure hPa ack travel mm olerance mm	: 1050 : 1500 : 14.80 : + 0.05	BREAKAWAY
MEASUREMENT		Rack travel in mm: 13.80
Pressure hPa Rated speed rpm rack travel mm Folerance mm	1050 10.40	+ Rated speed rpm : 1145 + Tolerance 1/min : + 5 +
Tolerance mm	: +- 0.20	STARTING FUEL DELIVERY

Rated speed rpm : 1050

Rated speed rpm	:	100
rack travel mm	:	20.50
Tolerance mm	: +-	0.50
Del. quantity		
cm3/1000 strokes	:	180.0
Tolerance		
cm3/1000 strokes	; +-	- 20.0
Check tolerance		
cm3/1000S.	: +-	- 24.0

LOW IDLE

Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.10 : + 0.30	
Del. quantity cm3/1000 strokes	: 25.0	
Tolerance cm3/1000 strokes	: + 3.0	
Check tolerance cm3/1000s.	: ← 5.0	
Spreed Tolerance		
cm3/1000 strokes Check tolerance	: 7.0	
cm3/1000s.	: 11.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 16.04.96 : ISO 4113

Combination No. : 0 402 736 894

Injection pump

Pump designation : PES6P120A120RS7400

EP type number : 0 412 726 950

Governor

Governer design. : RQV350...1200PA1261

Governer no. : D 421 815 495

Cust. part No. : 3282766

Customer-spec. information Customer : CUMMINS : 6CTAA Motor Power KW : 191.0

TEST BENCH REQUIREMENTS

: 3.2 Inlet line

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Overflow quantity

min. l/h : 125 Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 Tolerance bar : \leftarrow 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Toterance bar : +- 1.0

Prestroke mm : 3.30 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.50

Tolerance mm : + 0.50

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

: +- 0.30 Tolerance

Check

tolerance "NW : + 0.50

Start of delivery blocking

*NW after s.o.d. : 7.70 : + 0.50 Tolerance

Check

: +- 0.75 tolerance °NW

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 13.95

Tolerance mm : +- 0.05 +	
	Rated speed rpm : 1520
Del. quantity + cm3/1000 strokes : 190.0 +	guide sleeve travel mm : 13.50
The strokes in the stroke in th	Tolerance mm : + 0.50
Tolerance	
cm3/1000 strokes : + 1.0 +	GUIDE SLEEVE POSITION
Check tolerance	
cm3/1000s. : \leftarrow 4.0 \pm	Rated speed rpm : 1340
Spreed	Rack travel in mm : 12.60
Tolerance + cm3/1000 strokes : 5.0 +	Tolerance mm : \leftarrow 2.00
cm3/1000 strokes : 5.0	
Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : 9.0	Rated speed rpm : 1150
Rated speed rpm : 350	Aneroid pressure
Rack travel in mm: 5.10	hPa : 1500
Rack travel in mm: 5.10 + Tolerance mm: + 0.30 +	Del. quantity cm3/1000 strokes : 190.0
Del. quantity	Tolerance
cm3/1000 strokes : 25.0	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000 strokes : + 3.0	cm3/1000s. : +- 4.0
Check tolerance	Spreed
cm3/1000s. : + 5.0 +	Tolerance cm3/1000 strokes : 5.0
Tolerance	Check tolerance
cm3/1000 strokes : 7.0	cm3/1000s. : 9.0
Check tolerance + cm3/1000s. : 11.0 +	
+	
(B) SETTING OF INJECTION PUMP	CONTROL LEVER
WITH GOVERNOR	control lever
	position degree : 66.0 tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	toterance degree 4.0
But ad award ann a 250	control lever
Rated speed rpm : 350 + guide sleeve	position degree : 120.0 tolerance degree : +- 4.0
travel mm : 1.93 +	•
Tolerance mm : + 0.20	RATED SPEED
Rated speed rpm : 1258	rack travel mm : 12.90
guide sleeve	Rated speed rpm : 1245
travel mm : 10.14 Tolerance mm : + 0.15	Tolerance 1/min : +- 5
+	rack travel mm : 4.00
Rated speed rpm : 766	Rated speed rpm : 1360 Tolerance 1/min : +- 15
guide sleeve + travel mm : 5.91 +	
Tolerance mm : + 0.25	rack travel mm : 0.50
Rated speed rpm : 450	Tolerance mm : +- 0.50 Rated speed rpm : 1450
guide sleeve	114504 OPOGA 1 PIII 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
travel mm : 4.49 + Tolerance mm : + 0.25	
Tolerance mm : $+$ 0.25 $+$	

		+
LOW IDLE		+ Pressure hPa : 880 + rack travel mm : 13.20 + Tolerance mm : + 0.20
control lever position degree tolerance degree	: 74.0 : +- 4.0	Pressure hPa : 240 rack travel mm : 11.20 Tolerance mm : + 0.05
control lever position degree tolerance degree		START CUT-OUT
Testing:		Rated speed rpm : > 100 Rated speed rpm : < 280
Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.10 : +- 0.10	START CUT-OUT Rated speed rpm : > 100 Rated speed rpm : < 280 Check speed 1/min : > 80 Check speed 1/min : < 300
Rated speed rpm	: 250	+ speed 1/min : < 300
CRT mm min.	: > 8.20	
Rated speed rpm	: 350	Aneroid pressure hPa : 1500 Rated speed rpm : 600
TORQUE CONTROL		Del. quantity - cm3/1000 strokes : 176.0
Rated speed rpm rack travel mm Tolerance mm	: 1150 : 13.95 : + 0.05	Aneroid pressure hPa : 1500 Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 176.0 Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 12.0 Check tolerance cm3/1000 strokes : 12.0 Check tolerance cm3/1000s. : 16.0
Rated speed rpm rack travel mm	: 600	- cm3/1000s. : +- 6.0 - Spreed - Tolerance
Tolerance mm	: + 0.10	cm3/1000 strokes : 12.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 750 : 14.05 : + 0.15	cm3/1000s. : 16.0 Aneroid pressure
		+ hPa : - + Rated speed rpm : 500
ANEROID/ALTITUDE COMPENSATOR TEST		+ Del. quantity + cm3/1000 strokes : 111.0 + Tolerance
SETTING		- cm3/1000 strokes : +- 2.0 - Check tolerance
Rated speed rpm Pressure hPa		+ cm3/1000s. : + 4.0
rack travel mm Tolerance mm	: 13.95	BREAKAWAY
MEASUREMENT		Rack travel in mm : 12.90 Rated speed rpm : 1245
Pressure hPa Rated speed rpm rack travel mm Tolerance mm		Tolerance 1/min : + 5
Rated speed rpm		STARTING FUEL DELIVERY

Rated speed rpm rack travel mm	: 100 : 20.50
Tolerance mm	: ← 0.50
Del. quantity cm3/1000 strokes	: 180.0
Tolerance cm3/1000 strokes	: +- 20.0
Check tolerance	: 20.0
cm3/1000S.	: +- 24.0

LOW IDLE

Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.10 : +- 0.30
Del. quantity cm3/1000 strokes	: 25.0
Tolerance cm3/1000 strokes	: + 3.0
Check tolerance cm3/1000S. Spreed	: +- 5.0
Tolerance cm3/1000 strokes	: 7.0
Check tolerance cm3/1000s.	: 11.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 12.04.96 Edition Test oil : ISO 4113

Combination No. : 0 402 746 608

Injection pump

Pump designation : PES6P120A320RS7359

EP type number : 0 412 726 925

Governor

Governer design. : RQ275/1050PA1275 Governer no. : 0 421 801 805

Cust. part No. : CCEP 5157A 66-222

Customer-spec. information

Customer : RENAULT V.I. : MIDRO62045 F/C41 Motor

Power KW : 152.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 220 Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.70
Toierance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 20.25 Tolerance mm : \leftarrow 0.75

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.30

Check

: +- 0.50 tolerance °NW

Start of delivery mark

*NW after s.o.d. : -0.45

Tolerance : \leftarrow 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

	ı	
Rack travel in mm :	11 40	guide sleeve travel mm : 6.18
	+ 0.05	Tolerance mm : +- 0.10
rocci di loc light	1	TO COT COTOC (IIII)
Del. quantity	+	Rated speed rpm : 375
cm3/1000 strokes :	173.0	guide sleeve
		travel mm : 5.00
Tolerance		Tolerance mm : + 0.10
cm3/1000 strokes : -	+- 1.0 +	Rated speed rpm : 450
Check tolerance	I	Rated speed rpm : 450 guide sleeve
cm3/1000s. : -	+- 4.0	travel mm : 6.00
		Tolerance mm : + 0.10
Spreed		
Tolerance	+	Rated speed rpm : 1300
cm3/1000 strokes :	5.0	guide sleeve
Check tolerance		travel mm : 11.50 Tolerance mm : + 0.50
cm3/1000s.	9.0	Toterance mm : + 0.50
Ciii 57 (0905).	7.0	Rated speed rpm : 873
Rated speed rpm :	275	guide sleeve
•	+	travel mm : 6.52
Rack travel in mm :	-5.20 +	Tolerance mm : + 0.10
Tolerance mm : 1	⊢ 0.20 +	
Del. quantity cm3/1000 strokes :	31.0	GUIDE SLEEVE POSITION
Tolerance	J	GOIDE STEERE LOSTITON
	⊢ 2.0 ↓	Rated speed rpm : 500
Check tolerance	+	
cm3/1000s. : d	⊢ 5.0 +	Rack travel in mm : 20.00
Spreed	+	Tolerance mm : +- 0.80
Tolerance	†	
cm3/1000 strokes : Check tolerance	8.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. :	12.0 I	FOLL EDAD DELIVERY AT FOLL EDAD STOP
· · · · · · · · · · · · · · · · · · ·	12.5	Rated speed rpm : 1050
	4	Aneroid pressure
(B) SETTING OF INJECT	TION PUMP	hPa : 1000
WITH GOVERNOR	+	Del. quantity
	†	cm3/1000 strokes : 173.0
GUIDE SLEEVE TRAVEL	<u> </u>	Tolerance cm3/1000 strokes : +- 1.0
GOINE OFFERE LIVACE	I	Check tolerance
Rated speed rpm :	275	cm3/1000s. : + 4.0
guide sleeve	+	Spreed
travel mm :	2.44	Tolerance
Tolerance mm : +	- 0.20 +	cm3/1000 strokes : 5.0
Rated speed rpm :	1122	Check tolerance cm3/1000s. : 9.0
guide steeve	1122	(1137 10003.
travel mm :	7.06	
Tolerance mm : +	- 0.15	
	+	CONTROL LEVER
Rated speed rpm :	1050	and the Land
guide sleeve	6.70	control lever position degree : 276.0
travel mm : +	- 0.10 I	position degree : 276.0 tolerance degree : + 4.0
TO LET CHILD CHILD	Ţ	Total alloc degree . Tiu
Rated speed rpm :	648	RATED SPEED

Rated speed rpm : Tolerance 1/min : rack travel mm :	1115 -7.60 1205 -11.10 -11.10	MEASUREMENT Pressure hPa :
FOM IDTE	+	Tolerance mm : + 0.05
control lever position degree : tolerance degree :	256.0 + 4.0	START CUT-OUT Rated speed rpm : > 100 Rated speed rpm : < 195
Testing: Rated speed rpm : rack travel mm : Tolerance mm :	-5.20	Check speed 1/min : > 80 Check speed 1/min : < 215
rack travel mm : Rated speed rpm : Tolerance 1/min :	-9.60 375 +- 20	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : CRT mm min. :	200 < -3.30	Aneroid pressure hPa : 1000 Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 195.0
TORQUE CONTROL	1050	Tolerance cm3/1000 strokes : + 3.0 Check tolerance cm3/1000s. : + 6.0
Rated speed rpm : rack travel mm :	600 1.20 + 0.10	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 146.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
ANEROID/ALTITUDE COMPENSATOR TEST	‡	BREAKAWAY
SETTING	‡	Pook thought in man
Rated speed rpm : Pressure hPa : rack travel mm : Tolerance mm :	500	Rack travel in mm: -1.00 Rated speed rpm: 1115 Tolerance 1/min: +- 5

STARTING FUEL DELIVERY

100 Rated speed rpm

Del. quantity

cm3/1000 strokes : 155.0

Tolerance

cm3/1000 strokes : + 15.0

Check tolerance

cm3/1000s. : +- 19.0

LOW IDLE

275 Rated speed rpm -5.20 rack travel mm Tolerance mm 0.20 Del. quantity cm3/1000 strokes : 31.0

Tolerance cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s.

5.0 Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance cm3/1000s. 12.0

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 11.04.96 Edition : ISO 4113 Test oil Combination No. : 0 402 746 640 Injection pump Pump designation : PES6P120A320RS7359 EP type number : 0 412 726 925 Governor Governer design. : RQV300...1050PA1191 : 0 421 814 114 Governer no. Cust. part No. : CCEP 5147B 66-223 Customer-spec. information Customer : RENAULT V.I. : MIDR 06,20,45 C4 Motor Power KW : 188.0 TEST BENCH REQUIREMENTS Inlet line : 3.1 Test oil inlet temp. °C Tolerance °C 2.0 Overflow valve : 2 417 413 078 Inlet press. bar : Tolerance bar : +- 0.1 Test nozzle holde : 1 688 901 101 assembly Opening pressure 208.5 bar : +- 1.5 Tolerance bar

: 1 680 750 008

x inside diameter: 2.0 x length mm : REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____ BEGINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar : +- 1.0 Prestroke mm 4.70 Tolerance mm : +- 0.50 Check : + 0.10tolerance mm Rack travel in mm : 20.25 Tolerance mm : + 0.75 : 1-5-3-6-2-Firing order Phasing : 0-60-120-180-240 : -300 : +- 0.30 Tolerance Check : +- 0.50 tolerance "NW Start of delivery mark *NW after s.o.d. : -0.45 Tolerance : +- 0.50 Check tolerance "NW : +- 0.75 Barrel no. BASIC SETTING Rated speed rpm : 700 12.50 Rack travel in mm : Tolerance mm : +- 0.05 Del. quantity cm3/1000 strokes : 188.0

Test lines

Outside diameter : 6.0

		+ Tolerance mm : +- 0.25
Tolerance cm3/1000 strokes	: +- 1.0	Rated speed rpm : 460 guide sleeve
Check tolerance cm3/1000s.	: + 4.0	travel mm : 3.86 Tolerance mm : + 0.25
Spreed Tolerance cm3/1000 strokes	: 5.0	Rated speed rpm : 1460 guide sleeve travel mm : 11.50
Check tolerance cm3/1000s.	9.0	
Rated speed rpm	: 300	GUIDE SLEEVE POSITION
Rack travel in mm		Rated speed rpm : 1230
Tolerance mm	; + 0.20	F Rack travel in mm: 11.70
Del. quantity	0.20	Tolerance mm : +- 2.00
cm3/1000 strokes	: 34.0	Total arice likii . 7 = 2.00
Tolerance		
cm3/1000 strokes Check tolerance	: +- 2.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000S.	: +- 5.0	A Rated speed rpm : 700
Spreed		+ Aneroid pressure
Tolerance		+ hPa : 1000
cm3/1000 strokes	: 8.0	+ Del. quantity
Check tolerance		+ cm3/1000 strokes : 188.0
cm3/1000s.	: 12.0	Tolerance
		+ cm3/1000 strokes : + 1.0
		· · · · · · · · · · · · · · · · · · ·
(D) CETTING OF TA	HECTTON DUMP	+ Check tolerance
(B) SETTING OF IN	JECTION PUMP	Check tolerance cm3/1000s. : +- 4.0
(B) SETTING OF IN	JECTION PUMP	Check tolerance cm3/1000s. : +- 4.0 Spreed
	JECTION PUMP	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance
WITH GOVERNOR		Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0
		Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
GUIDE SLEEVE TRAV		Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0
GUIDE SLEEVE TRAV	/EL : 300	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm	FEL: 300:: 1.33	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAV	'EL : 300 : 1.33 : + 0.25	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER
WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	FEL: 300:: 1.33	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever
WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	/EL : 300 : 1.33 : + 0.25 : 1140	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control Lever position degree : 304.0
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	/EL : 300 : 1.33 : + 0.25 : 1140 : 8.49	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever
WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	/EL : 300 : 1.33 : + 0.25 : 1140	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 304.0 tolerance degree : +- 4.0
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm	: 300 : 1.33 : + 0.25 : 1140 : 8.49 : + 0.25	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 304.0 tolerance degree : + 4.0 RATED SPEED
WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 300 : 1.33 : + 0.25 : 1140 : 8.49 : + 0.25 : 754	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 304.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : -1.00
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.33 : + 0.25 : 1140 : 8.49 : + 0.25 : 754 : 6.10	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 304.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : -1.00 Rated speed rpm : 1135
WITH GOVERNOR GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 300 : 1.33 : + 0.25 : 1140 : 8.49 : + 0.25 : 754	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 304.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : -1.00
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 300 : 1.33 : + 0.25 : 1140 : 8.49 : + 0.25 : 754 : 6.10	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 304.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : -1.00 Rated speed rpm : 1135
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm	EL : 300 : 1.33 : + 0.25 : 1140 : 8.49 : + 0.25 : 754 : 6.10 : + 0.25	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 304.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : -1.00 Rated speed rpm : 1135 Tolerance 1/min : + 5
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 300 : 1.33 : + 0.25 : 1140 : 8.49 : + 0.25 : 754 : 6.10 : + 0.25	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 304.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : -1.00 Rated speed rpm : 1135 Tolerance 1/min : + 5 rack travel mm : -8.50
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	EL : 300 : 1.33 : + 0.25 : 1140 : 8.49 : + 0.25 : 754 : 6.10 : + 0.25 : 365	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 304.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : -1.00 Rated speed rpm : 1135 Tolerance 1/min : + 5 rack travel mm : -8.50 Rated speed rpm : 1290
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 300 : 1.33 : + 0.25 : 1140 : 8.49 : + 0.25 : 754 : 6.10 : + 0.25 : 365 : 2.40	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 304.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : -1.00 Rated speed rpm : 1135 Tolerance 1/min : + 5 rack travel mm : -8.50 Rated speed rpm : 1290
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 300 : 1.33 : + 0.25 : 1140 : 8.49 : + 0.25 : 754 : 6.10 : + 0.25 : 365 : 2.40	Check tolerance cm3/1900s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 304.0 tolerance degree : +- 4.0 RATED SPEED rack travel mm : -1.00 Rated speed rpm : 1135 Tolerance 1/min : +- 5 rack travel mm : -8.50 Rated speed rpm : 1290 Tolerance 1/min : +- 15 rack travel mm : -1.00 Tolerance mm : -12.00 Tolerance mm : -12.00 Tolerance mm : -12.00
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	EL : 300 : 1.33 : + 0.25 : 1140 : 8.49 : + 0.25 : 754 : 6.10 : + 0.25 : 365 : 2.40 : + 0.25	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0 CONTROL LEVER control lever position degree : 304.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : -1.00 Rated speed rpm : 1135 Tolerance 1/min : + 5 rack travel mm : -8.50 Rated speed rpm : 1290 Tolerance 1/min : + 15 rack travel mm : -12.00

FOM IDTE	
control lever position degree tolerance degree	: 268.0 : +- 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 300 : -6.00 : +- 0.10
Rated speed rpm	: 200
CRT mm max.	: < -3.60
Rated speed rpm	: 370
TORQUE CONTROL	
Rated speed rpm	: 700
Rated speed rpm Tolerance mm	: 1050 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 1000
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 500 : -1.35 : + 0.20
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 140 : -0.75 : +- 0.15
Pressure hPa rack travel mm Tolerance mm	: 200 : -0.35 : +- 0.05

Rated speed rpm	: < 220
Check speed 1/min Check	: > 80
speed 1/min	: < 240
FUEL DELIVERY CHAR	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	
cm3/1000 strokes Check tolerance cm3/1000s.	: +- 3.0 : +- 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 148.0 : + 1.0 : + 4.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: -1.00 : 1135 : +- 5
STARTING FUEL DELI	IVERY
Rated speed rpm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	

Rated speed rpm : > 100

Del. quantity cm3/1000 strokes : 34.0 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.04.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 196 702

Injection pump

Pump designation : PES6P120A720RS3184

EP type number : 0 412 026 727

Governor

Governer design. : RE24

: 0 421 890 006 Governer no.

Cust. part No. : RE 47396

Customer-spec. information Customer : DEERE : 6076 F030 Motor Power KW : 205.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. *C Tolerance *C 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

: 1 680 750 015 Test lines

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting. Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +-

3,60 Prestroke mm :

: 3.60 Prestroke mm : + 0.05Tolerance mm : + 0.03Tolerance mm Check

: + 0.10tolerance mm Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50

Rack travel in mm : Tolerance mm : +- 1.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

: + - 0.75tolerance °NW

Start of delivery blocking

"NW after s.o.d.: 10.50 : +- 0.50 Tolerance

Check : ← 0.75 tolerance °NW Barrel no. : 1 Beginning of delivery differende and maximum rack travel 15.00 Tolerance mm +- 0.50 Difference ° CS 6.00 (B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 VTESTING & SETTING RACK TRAVEL SENSOR POSITION Engine speed min-1: Setting point (P, R and H pump) 3.100 Uact V CRT mm 13.00 : +/- 0.05 Tolerance mm Check : +/- 0.10 tolerance mm Check value (P, R and H pump) 1.700 Uact V CRT mm 6.15 : +/- 0.25 Tolerance mm Check : +/- 0.30 tolerance mm Setting point (amuq M) Uact V 3.100 CRT mm 12.50 Tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.10Check value (amua M)

1.700

5.50

: +/- 0.25

Check : +/- 0.30 tolerance mm Stop position Uact V : Value with deenergised adjusting magnet and control rod in stop position. CRT mm 0.75 : +/- 0.25 Tolerance mm Check : +/- 0.35 tolerance mm ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps) Test with control rod in stop position 60 Engine speed min-1: Amplitude V 1.4 Tolerance V : +/- 0.6 Check : +/- 1.20 tolerance V Engine speed min-1: 600 Difference Amplitude to Amplitude V : max.1.4 (C) INJECTION PUMP WITH POSITIONER TEST POINT V1 Rated speed rpm 1100 Uact V 2.710 Del. quantity cm3/1000 strokes : 141.0 Tolerance cm3/1000 strokes : +-Check tolerance cm3/1000s. : +-4.0 Spreed Tolerance 5.0 cm3/1000 strokes : Check tolerance cm3/1000s. 9.0 FUEL DELIVERY CHARACTERISTICS 700 Rated speed rpm 2.710 Uact V Del. quantity cm3/1000 strokes : 142.0

Uact V

CRT mm

Tolerance mm

Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed Tolerance	: + 3.0 : + 6.0
cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0
Rated speed rpm Uact V Del. quantity	: 425 : 1.400
cm3/1000 strokes	: 21.0
Tolerance cm3/1000 strokes	: + 3.0
Check tolerance cm3/1000S. Spreed Tolerance	: +- 6.0
cm3/1000 strokes	: 6.0
Check tolerance cm3/1000s.	: 10.0
TEST POINT L1	
Rated speed rpm Uact V Tolerance Volt Check tolerance	: 425 : 1.610 : + 0.060
Volt	: +- 0.060

STARTING FUEL DELIVERY

Rated speed rpm : 100
Uact V : 4.600
Del. quantity
cm3/1000 strokes : 100.0
Tolerance
cm3/1000 strokes : + 10.0
Check tolerance
cm3/1000s. : + 13.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 20.03.96 Edition Test oil : ISO 4113

Combination No. : 0 402 196 709

Injection pump

Pump designation : PES6P120A720RS3354

EP type number : 0 412 026 781

Governor

Governer design. : RE30

Governer no.

Cust. part No. : RE 67771

Customer-spec. information Customer : DEERE : 6081HRW06 Motor Power KW : 149.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance *C

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar 208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting. Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 3.60

3.60 Prestroke mm • : +- 0.05 Tolerance mm : +- 0.03 Tolerance mm

Check : + 0.10tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50

Rack travel in mm: 10.50 Tolerance mm : + 1.50
Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: +- 0.75

: 0-60-120-180-240 Phasing

: -300 Tolerance : +- 0.30

Check

Start of delivery mark

tolerance *NW

*NW after s.o.d. : 8.50 Tolerance

Check tolerance *NW	: + 0.75
Barrel no.	: 1
Beginning of deli	very differende
and maximum rack travel Tolerance mm Difference * CS	: 15.00 : + 0.50 : 2.50
(B) POSITIONER TE Warm-up time: 3 m n=600 min-1, Uact	inutes at
TESTING & SETTING POSITION	RACK TRAVEL SENSOR
Engine speed min-	1: 0
Setting point (P, R and H pump)	
Uact V CRT mm Tolerance mm Check tolerance mm	: 3.100 : 13.00 : +/- 0.05 : +/- 0.10
Check value (P, R and H pump)	
Uact V CRT mm Tolerance mm Check tolerance mm	: 1.700 : 6.15 : +/- 0.25 : +/- 0.30
Setting point (M pump)	
Uact V CRT mm Tolerance mm Check tolerance mm	: 3.100 : 12.50 : +/- 0.05 : +/- 0.10
Check value (M pump)	
Uact V CRT mm Tolerance mm	: 1.700 : 5.50 : +/- 0.25

Check tolerance mm : ∻/- 0.30
Stop position
Uact V: Value with deenergised adjusting magnet and control rod in stop position.
CRT mm : 0.75 Tolerance mm : +/- 0.25 Check
tolerance mm : +/- 0.35
ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps)
Test with control rod in stop position
Engine speed min-1: 60 Amplitude V : 1.4
Amplitude V : 1.4 Tolerance V : +/- 0.6 Check
tolerance V : +/- 1.20
Engine speed min-1: 600 Difference Amplitude to
Amplitude V : max.1.4
(C) INJECTION PUMP WITH POSITIONER
TEST POINT V1
Rated speed rpm : 1100
Uact V : 2.880 Del. quantity
cm3/1000 strokes : 140.0 Tolerance
cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000s. : + 3.0 Spreed
Tolerance cm3/1000 strokes : 5.0
Check tolerance cm3/1000S. : 9.0
FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 700 Uact V : 2.880
Del. quantity cm3/1000 strokes : 141.5

s : +- 3.0
: + 6.0
8.0
: 12.0
: 425
: 1.610
3 : 22.0
s : +- 3.0
: +- 6.0
6.0
: 10.0
. 10.0
425
: 1.610 : +- 0.060
: +- 0.060
; += 0.000
LIVERY
: 100
4.600
: 105.0
: : +- 10.0
: + 13.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.03.96 Test oil : ISO 4113

Combination No. : 0 402 196 710

Injection pump

Pump designation : PES6P120A720RS3354

EP type number : 0 412 026 781

Governor

Governer design. : RE30

Governer no.

Cust. part No. : RE 67448

Customer—spec. information
Customer : DEERE
Motor : 6081AT002
Power KW : 135.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting. Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 3.60

Check tolerance mm : +- 0.10 Check

tolerance mm : + 0.10

Rack travel in mm: 10.50

Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 : +- 0.30

Check tolerance *NW : + 0.75

Start of delivery mark

Tolerance

*NW after s.o.d. : 7.00 Tolerance : + 0.50

Check tolerance "NW : + - 0.75Barrel no. Beginning of delivery differende and maximum rack 15.00 travel 0.50 Tolerance mm Difference * CS 2,50 (B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 VTESTING & SETTING RACK TRAVEL SENSOR POSITION Engine speed min-1: Setting point (P, R and H pump) Uact V 3.100 : CRT mm 13.00 Tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.10 Check value (P, R and H pump) 1.700 Uact V CRT mm 6.15 : +/- 0.25 Tolerance mm Check : +/- 0.30tolerance mm Setting point (qmuq M) 3.100 Uact V CRT mm 12.50 : +/- 0.05 Tolerance mm Check : +/- 0.10 tolerance mm Check value (M pump) 1.700 Uact V 5.50 CRT mm

: +/- 0.25

Check : +/- 0.30 tolerance mm Stop position Uact V : Value with deenergised adjusting magnet and control rod in stop position. 0.75 CRT mm : +/- 0.25 Tolerance mm Check tolerance mm : +/- 0.35ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps) Test with control rod in stop position Engine speed min-1: 60 Amplitude V 1.4 Tolerance V : +/- 0.6 Check tolerance V : +/- 1.20 Engine speed min-1: 600 Difference Amplitude to Amplitude V : max.1.4 (C) INJECTION PUMP WITH POSITIONER TEST POINT V1 Rated speed rpm 1100 2.880 Uact V Del. quantity cm3/1000 strokes : 140.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 3.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance 9.0 cm3/1000s.FUEL DELIVERY CHARACTERISTICS Rated speed rpm 700 Uact V 2.880

Del. quantity

cm3/1000 strokes :

141.5

Tolerance mm

Tolerance cm3/1000 strokes Check tolerance	: +- 3.0 : +- 6.0		
cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 8.0		
Check tolerance cm3/1000s.	: 12.0		
Rated speed rpm Uact V Dei. quantity	: 425 : 1.610		
cm3/1000 strokes Tolerance	: 22.0		
cm3/1000 strokes Check tolerance	: +- 3.0		
cm3/1000s. Spreed Tolerance	: + 6.0		
cm3/1000 strokes Check tolerance	: 6.0		
cm3/1000s.	: 10.0		
TEST POINT L1			
Rated speed rpm Uact V Tolerance Volt Check tolerance	: 425 : 1.610 : + 0.060		
Volt	: +- 0.060		
STARTING FUEL DELIVERY			
Rated speed rpm	: 100		

Rated speed rpm : 100
Uact V : 4.600
Del. quantity
cm3/1000 strokes : 105.0
Tolerance
cm3/1000 strokes : + 10.0
Check tolerance
cm3/1000s. : + 13.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.04.96 Test oil : ISO 4113

Combination No. : 0 402 746 613

Injection pump

Pump designation : PES6P120A320RS7372 EP type number : 0 412 726 940

Governor

Governer design. : RQV250...1250PA1283K

Governer no. : 0 421 815 516

Cust. part No. : 3866785

Customer-spec. information Customer : CDC Motor : 6BTA Power KW : 164.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : **←** 2.0 Tolerance °C

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

: 208.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 4.00 Tolerance mm : + 0.05 Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

: +- 0.75 tolerance *NW

Start of delivery blocking

*NW after s.o.d. : 11.50 : +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 12.05 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes	: 143.5	EILL LOAD DELTUED	V AT FIRE LOAD STOD
Tolerance cm3/1000 strokes	: +- 1.0	Rated speed rpm	Y AT FULL LOAD STOP : 1250
Check tolerance cm3/1000s.	: + 4.0	Aneroid pressure hPa Del. quantity	: 900
Spreed Tolerance	5.0	cm3/1000 strokes Tolerance cm3/1000 strokes	: 143.5 : + 1.0
cm3/1000 strokes Check tolerance		+ Check tolerance + cm3/1000s. + Spreed	: +- 4.0
cm3/1000s. Del. quantity	: 9.0	+ Tolerance + cm3/1000 strokes + Check tolerance	: 5.0
cm3/1000 strokes Tolerance cm3/1000 strokes		- cm3/1000s.	: 9.0
Check tolerance cm3/1000s. Spreed	: +- 5.0	CONTROL LEVER	
Tolerance cm3/1000 strokes Check tolerance		control lever position degree tolerance degree	: 114.0 : + 4.0
cm3/1000s.	: 12.0	RATED SPEED	
(B) SETTING OF IN WITH GOVERNOR	NECTION PUMP	rack travel mm Rated speed rpm Tolerance 1/min	: 11.00 : 1310 : + 5
GUIDE SLEEVE TRAV		rack travel mm Rated speed rpm	: 4.00 : 1475
Rated speed rpm guide sleeve travel mm	: 275 : 1.39	Tolerance 1/min rack travel mm	: + 15 : 0.50
Tolerance mm Rated speed rpm	: +- 0.20 : 1305	Tolerance mm Rated speed rpm	: ← 0.50 : 1600
guide sleeve travel mm	: 7.93		
Tolerance mm Rated speed rpm	: +- 0.15 : 864	LOW IDLE	
guide sleeve travel mm Tolerance mm	: 5.36 : +- 0.25	control lever position degree tolerance degree	
Rated speed rpm guide sleeve	: 480	Testing:	
travel mm Tolerance mm	: 3.18 : +- 0.25	Rated speed rpm rack travel mm Tolerance mm	: 300 : 7.40 : +- 0.20
Rated speed rpm guide sleeve	: 1860	Rated speed rpm	: 275
travel mm Tolerance mm	: 13.50 : + 0.50	CRT mm min.	: > 8.20

Rated speed rpm	: 450	†
TODALE ANITON		FUEL DELIVERY CHARACTERISTICS
TORQUE CONTROL		+ Aneroid pressure
Rated speed rpm	: 1250	+ hPa : 900
rack travel mm	: 12.05	+ Rated speed rpm : 900
Tolerance mm	: +- 0.05	+ Del. quantity
Rated speed rpm	. 900	+ cm3/1000 strokes : 145.0 + Tolerance
rack travel mm	: 11.80	cm3/1000 strokes : +- 3.0
Tolerance mm	: +- 0.10	+ Check tolerance
Dated annual non	. onn	- cm3/1000s. : + 6.0
Rated speed rpm rack travel mm		+ Spreed - Tolerance
Tolerance mm	: +- 0.10	- cm3/1000 strokes : 8.0
10 CC1 CI ICC IIRII	0.10	Check tolerance
Rated speed rpm	: 600	- cm3/1000s. : 12.0
rack travel mm	: 11.40	+
Tolerance mm	: ← 0.20	+ Aneroid pressure
		† hPa : -
ANIEDATA /AL TYTUDE		Rated speed rpm : 600
ANEROID/ALTITUDE COMPENSATOR TEST		+ Del. quantity + cm3/1000 strokes : 90.5
COMPENSATOR TEST		Tolerance
		- cm3/1000 strokes : +- 1.0
SETTING		- Check tolerance
		+ cm3/1000s. : +- 3.0
Rated speed rpm	: 1250	+
Pressure hPa	: 900	DDEALAHAY
MEASUREMENT		BREAKAWAY
MEASUREMENT		Ţ
Pressure hPa	; -	+ Rack travel in mm : 11.00
Rated speed rpm	: 1250	+ Rated speed rpm : 1310
rack travel mm Tolerance mm	: 10.00	Tolerance 1/min : +- 5
Tolerance mm	: +- 0.20	+
Rated speed rpm	: 1250	<u> </u>
hated speed i pill		T STARTING FUEL DELIVERY
Pressure hPa	: 550	†
rack travel mm	: 11.10	+ Rated speed rpm : 100
Tolerance mm	: + 0.20	+ rack travel mm : 21.00 + Tolerance mm : +- 0.50
Pressure hPa	: 265	Del. quantity
rack travel mm	: 10.20	+ cm3/1000 strokes : 184.5
Tolerance mm	: + 0.20	Tolerance
	_	+ cm3/1000 strokes : +- 20.0
START CUT-OUT		+ cm3/1000s. : + 25.0
Datad agaid ses	. \ 100	†
Rated speed rpm Rated speed rpm	: > 100 : < 250	I
nated speed (pill)	250	
Check		+ LOW IDLE
speed 1/min	: > 80	+
Check		+ Del. quantity
speed 1/min	: < 260	+ cm3/1000 strokes : 28.5
		+ Tolerance + cm3/1000 strokes : +- 3.0
		T CHID (1000 211 0KES . T 3.0

Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W480/...

Edition : 23.04.96 Test oil : ISO 4113

Combination No. : 9 400 030 731

Injection pump

Pump designation : PES6A95D32D/3RS2881 EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1100A0C843R

Governer no. : 9 420 034 709

Cust. part No. : 3929406

Customer-spec. information Customer : CDC Motor : 6BT Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.50

Check

tolerance *NW : +- 0.75

Start of delivery blocking

*NW after s.o.d. : 7.50 Tolerance : + 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.25
Tolerance mm : + 0.05

Dal augustātus	1	
Del. quantity cm3/1000 strokes	: 94.0	rack travel mm : 10.20
Talaman	+	Rated speed rpm : 1165
Tolerance cm3/1000 strokes	: + 1.0 I	Tolerance 1/min : +- 5
	+	rack travel mm : 0.85
Check tolerance cm3/1000s.	+	Tolerance mm : +- 0.55
CIIDA (CCC).	: + 3.0	Rated speed rpm : 1300
Spreed	+	rack travel mm : 4.50
Tolerance cm3/1000 strokes	: 4.0	Rated speed rpm : 1215
CHON LONG SCLOKES	. 4.0	
Check tolerance		
cm3/1000s.	: 6.5	LOW IDLE
Del. quantity	Ī	Setting point w/out bumper spring
cm3/1000 strokes	: 18.5	
Tolerance cm3/1000 strokes	: + 2.0	Rated speed rpm : 475 rack travel mm : 4.60
Check tolerance	. — 2.0	rack travet mm : 4.00
cm3/1000s.	: + 4.5	Testing:
Spreed	†	Debad around are 175
Tolerance cm3/1000 strokes	: 6.0	Rated speed rpm : 475 rack travel mm : 5.10
Check tolerance	-	Tolerance mm : + 0.10
cm3/1000S.	: 8.0	
	I	TORQUE CONTROL
(B) SETTING OF IN	NJECTION PUMP	
WITH GOVERNOR	+	Rated speed rpm : 1100
	Ī	rack travel mm : 11.25 Tolerance mm : +- 0.05
GUIDE SLEEVE POSI	TION	Rated speed rpm : 800 rack travel mm : 12.00
governor spring	1	rack travel mm : 12.00 Tolerance mm : + 0.10
pre-tension	+	
click setting x	: 5.00	AMPROTA / ALTTURE
		ANEROID/ALTITUDE COMPENSATOR TEST
FULL LOAD DELIVER	RY AT FULL LOAD STOP	
Rated speed rpm	: 1100	SETTING
Aneroid pressure	· 1100	PELLING
hPa	: 900	Rated speed rpm : 800
Del. quantity cm3/1000 strokes	: 94.0	Pressure hPa : 900
Tolerance	. 74.0	MEASUREMENT
cm3/1000 strokes	: + 1.0	
Check tolerance cm3/1000S.	: + 3.0	Pressure hPa : - Rated speed rpm : 800
Spreed	3.0	Rated speed rpm : 800 rack travel mm : 8.70
Tolerance	+	Tolerance mm : + 0.10
cm3/1000 strokes	: 4.0	Dated around now . Ono
Check tolerance cm3/1000S.	: 6.5	Rated speed rpm : 800
	+	Pressure hPa : 600
047F0 00FF0	+	rack travel mm : 11.10
RATED SPEED	+	Tolerance mm : +- 0.20

Pressure hPa rack travel mm Tolerance mm	: 275 : 9.50 : +- 0.20
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: 900 : 800
cm3/1000 strokes Tolerance	: 107.5
cm3/1000 strokes Check tolerance	: + 2.0
cm3/1000s.	: +- 4.0
Ameroid pressure hPa Rated speed rpm Del. quantity	: - : 800
cm3/1000 strokes	: 65.5
cm3/1000 strokes Check tolerance cm3/1000s.	: +- 1.0 : +- 3.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity	: 100 : 20.50 : +- 0.50
cm3/1000 strokes Tolerance	: 120.5
cm3/1000 strokes	: +- 10.0

Check tolerance cm3/1000s. : + 15.0

LOW IDLE

Del. quantity cm3/1000 strokes : 18.5

Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : 6.0 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 18.04.96 Edition Test oil : ISO 4113

Combination No. : 0 401 878 716

Injection pump

Pump designation : PE8P110A320LS3842-1 EP type number : 0 411 818 716

Governor

Governer design. : RSV675...1050P0A823

: -9

: 0 421 833 365 Governer no.

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : 0M442 Motor Power KW : 213.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : + 10.0

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 2.5 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 4.05 Tolerance mm : + - 0.05Check

tolerance mm : + 0.10

Rack travel in mm: 20.50 Tolerance mm : + 0.50

: 8-7-2-6-3 Firing order : - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315 Tolerance : +- 0.30

Check

tolerance $^{\circ}NW$: \leftarrow 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1030

Rack travel in mm : 13.05 : +- 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 142.0

H01

Tolerance	
cm3/1000 strokes : +- 1.0	CONTROL LEVER
Check tolerance cm3/1000s. : + 3.5	control lever position degree : 86.0
Spreed Tolerance cm3/1000 strokes : 4.0	tolerance degree : +- 4.0
Check tolerance cm3/1000s. : 7.0	LOW IDLE
Rated speed rpm : 675	combined devices
Rack travel in mm: 5.10 Tolerance mm: +- 0.30 Del. quantity	control lever position degree : 74.0 tolerance degree : +- 4.0
cm3/1000 strokes : 18.0	Testing:
cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 5.5	Rated speed rpm : 675 rack travel mm : 5.10 Tolerance mm : + 0.10
Spreed Tolerance	
cm3/1000 strokes : 4.0	rack travel mm : 2.00 Rated speed rpm : 705 Tolerance 1/min : +- 30
Check tolerance cm3/1000s. : 7.0	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 100 CRT mm min. : > 15.00 SET IDLE AUXILIARY SPRING
GUIDE SLEEVE POSITION	rack travel mm : 2.00
Rated speed rpm : 800	TORQUE CONTROL
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Rated speed rpm : 1030 rack travel mm : 13.05 Tolerance mm : + 0.05
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 750 rack travel mm : 13.10
Rated speed rpm : 1030 Aneroid pressure	Tolerance mm : + 0.10
hPa : - + + + + + + + + + + + + + + + + + +	
Tolerance + cm3/1000 strokes : + 1.0 +	FUEL DELIVERY CHARACTERISTICS
Check tolerance cm3/1000s. : + 3.5 Spreed	Aneroid pressure hPa : -
Tolerance cm3/1000 strokes : 4.0	Rated speed rpm : 750 Del. quantity
Check tolerance cm3/1000s. : 7.0	cm3/1000 strokes : 134.0

Tolerance cm3/1000 strokes	; +	2.0
Check tolerance cm3/1000s.	: +	5.0
Spreed		
Tolerance cm3/1000 strokes	:	5.0
Check tolerance	_	8.0
cm3/1000S.	;	0.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 150.0
Tolerance
cm3/1000 strokes : + 10.0
Check tolerance
cm3/1000s. : + 14.0

LOW IDLE

Rated speed rpm 675 rack travel mm 5.10 Tolerance mm : +- 0.30 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 5.5 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance 7.0 cm3/1000S.

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 21.02.95 Test oil : ISO 4113

Combination No. : 0 402 646 625

Injection pump

Pump designation : PE6P12OA32ORS7300 EP type number : 0 412 626 886

Governor

Governer design. : RQV275...1000PA1077K

Governer #0. : 0 421 815 358

Cust. part No. : 1280165

Customer-spec. information
Customer : DAF
Motor : \(\frac{1}{2} \)S 242 M

Motor : %5 242 M Power KW : 242.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. *C : 40 Tolerance *C : + 2.0

Overflow valve : 1 417 413 025

Inlet press, bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 140 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.35
Tolerance mm : + 0.05
Check

LILECK

tolerance mm : \div 0.10

Rack travel in mm : 15.00Tolerance mm : +-0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 15.05 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 228.0

Tolerance	. 40	†
cm3/1000 strokes	: +- 1.0	+ Rated speed rpm : 400 + guide sleeve
Check tolerance cm3/1000s.	: +- 4.0	travel mm : 3.92 Tolerance mm : + 0.25
Spreed Tolerance		Rated speed rpm : 1310 guide sleeve
cm3/1000 strokes	: 5.0	travel mm : 13.50 Tolerance mm : + 0.50
Check tolerance cm3/1000s.	: 9.0	GUIDE SLEEVE POSITION
Rated speed rpm	: 275	+
Rack travel in m	m: 6.20	Rated speed rpm : 1140
Tolerance mm Del. quantity	: + 0.10	Rack travel in mm: 14.00 Tolerance mm: + 1.30
cm3/1000 strokes Tolerance	: 17.0	1
cm3/1000 strokes Check tolerance	: +- 3.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s.	: +- 6.0	Rated speed rpm : 980
Spreed Tolerance		+ Aneroid pressure + hPa : -
cm3/1000 strokes Check tolerance	: 8.0	+ Del. quantity + cm3/1000 strokes : 228.0
cm3/1000s.	: 12.0	Tolerance cm3/1000 strokes : + 1.0
(B) SETTING OF IN	NJECTION PUMP	Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance
GUIDE SLEEVE TRAN	VEL	cm3/1000 strokes : 5.0 Check tolerance
Rated speed rpm guide sleeve		+ cm3/1000s. : 9.0
travel mm Tolerance mm	: 2.14 : + 0.20	CONTROL LEVER
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1045 : 9.83 : + 0.15	control lever position degree : 119.0 tolerance degree : +- 4.0
Rated speed rpm	: 689	+ RATED SPEED
guide sleeve travel mm	: 6.43	rack travel mm : 14.00 Rated speed rpm : 1037
Tolerance mm	: + 0.25	+ Tolerance 1/min : + 8 + +
Rated speed rpm guide sleeve	: 284	rack travel mm : 4.00 Rated speed rpm : 1165
travel mm Tolerance mm	: 2.27 : + 0.25	Tolerance 1/min : +- 15
		rack travel mm : 0.70 Tolerance mm : + 0.70
Rated speed rpm guide sleeve		Rated speed rpm : 1250
travel mm Tolerance mm	: 3.08 : + 0.25	‡

LOW IDLE	
cantrol lever position degree tolerance degree	: 75.0 : +- 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : 5.30 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 395
Rated speed rpm	: 175
CRT mm min.	: > 8.50 ¹
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 980 : 15.05 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 850 : 14.95 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 750 : 14.95 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 600 : 14.60 : + 0.10
Rated speed rpm rack travel mm Tolerance mm	: 500 : 14.40 : + 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 980 : 1500 : 15.05 : + 0.05

Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 980 : 12.30 : +- 0.10
Rated speed rpm	: 980
Pressure hPa rack travel mm Tolerance mm	: 480 : 14.35 : ← 0.05
Pressure hPa rack travel mm Tolerance mm	: 270 : 12.90 : + 0.10
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
hPa Rated speed rpm	750
Del. quantity cm3/1000 strokes	: 238.0
Tolerance cm3/1000 strokes	: 2.0
Check tolerance cm3/1000s. Spreed	: +- 5.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000S.	: 12.0
Aneroid pressure	
hPa Rated speed rpm	: 600
Del. quantity cm3/1000 strokes	: 157.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance cm3/1000s.	: +- 4.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 1037

LOW IDLE

MEASUREMENT

Rated speed rpm	:	275
rack travel mm	:	6.20
Tolerance mm	: +-	0.10
Del. quantity		
cm3/1000 strokes	:	17.0
Tolerance		
cm3/1000 strokes	: +	3.0
Check tolerance		
cm3/1000S.	: +-	6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.04.96 : ISO 4113 Test oil

Combination No. : 0 402 646 741

Injection pump

Pump designation : PE6P12OA32OLS7872 EP type number : 0 412 626 912

Governor

Governer design. : RQ750PA1231 : 0 421 801 791 Governer no.

Cust. part No. : 04222728KY0165-17

Customer-spec. information Customer : KHD

Motor : BF6M1015/C Power KW : 239.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +-2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 100 Tolerance l/h : + 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : + 4.05 : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 : +- 1.50 Tolerance mm

: 1-6-3-5-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

: + - 0.30Tolerance

Check

: +- 0.50 tolerance °NW

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance *NW : + 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm :

700

Rack travel in mm: 13.30

Tolerance mm : +- 0.05

		+ Rated speed rpm : 930	
Del. quantity		+ Rated speed rpm : 930 + guide sleeve	
cm3/1000 strokes	: 365.0	travel mm : 13.5	ก
cms/ rood strakes	; 303.0	Tolerance mm : + 0.5	
Tologopoo		T toterance min : += 0.5	U
Tolerance cm3/1000 strokes	: + 1.0	Ť	
CMS/ (DOD STrokes	: +- 1.0	FULL LOAD DELTHERY AT FULL	LOAD CTOD
Chark talanana		FULL LOAD DELIVERY AT FULL	LUAD STUP
Check tolerance cm3/1000s.	: +- 4.0	Rated speed rpm : 700	
CIRDY (DODS.	: 4.0	+ Rated speed rpm : 700 + Aneroid pressure	
Spreed		+ hPa : -	
Tolerance		T Del. quantity	
cm3/1000 strokes	: 5.0	+ cm3/1000 strokes : 365.	n
CIIDY IDDO SET CRES	. 5.6	Tolerance	J
Check tolerance		cm3/1000 strokes : + 1.	Ω
cm3/1000s.	: 9.0	Check tolerance	D
CID/ 10005.	. 7.0	- cm3/1000s. : +- 4.1	n
Rated speed rpm	: 300	F Spreed	5
Raced Speed Phil	. 300	+ Tolerance	
Rack travel in mm	4.90	+ cm3/1000 strokes : 5.1	n
Tolerance mm	: +- 0.20	+ Check tolerance	,
Del. quantity	0.20	+ cm3/1000s. : 9.1	n
cm3/1000 strokes	: 20.0	1 11107 100001	-
Tolerance	. 20.0	1	
cm3/1000 strokes	: +- 3.0		
Check tolerance		+ CONTROL LEVER	
cm3/1000s.	: +- 6.0	1	
Spreed		+ control lever	
Tolerance		+ position degree : 109.0	3
cm3/1000 strokes	: 8.0	+ tolerance degree : +- 4.0	
Check tolerance		+	
cm3/1000s.	: 12.0	+ RATED SPEED	
		+	
		+ rack travel mm : 0.50)
(B) SETTING OF IN	JECTION PUMP	+ Tolerance mm : +- 0.50	כ
WITH GOVERNOR		+ Rated speed rpm : 900	
		+	
		+ ASSEMBLY GOVERNOR SETTING	
GUIDE SLEEVE TRAV	EL	+	
		+ Rated speed rpm : 750	
Rated speed rpm	: 715	+ rack travel mm : 12.30)
guide sleeve	/ 07	†	
travel mm	: 4.23	+ Rated speed rpm : 780	
Tolerance mm	: +- 0.15	+ Tolerance 1/min : + 4	
The state of the state of	(40)	+ rack travel mm : 5.50)
Rated speed rpm	: 610	T	•
guide sleeve	. 0.72	+ rack travel mm : 0.50	
travel mm	: 0.72	+ Tolerance mm : + 0.50	j
Tolerance mm	: + 0.25	Rated speed rpm : 900	
Poted speed nom	: 900	Rated speed rpm : 751	
Rated speed rpm guide sleeve	: 900	+ Rated speed rpm : 751 + rack travel mm : 12.30	
travel mm	: 74.89	Track Clavet IIIII . 12.30	•
Tolerance mm	: + 0.25	Rated speed rpm : 781	
TOCCI GITCO HIII		Tolerance 1/min : + 4	
Rated speed rpm	: 862	+ rack travel mm : 5.50	3
guide sleeve		-	
travel mm	: 12.00	+ rack travel mm : 0.50	}
Tolerance mm	: +- 0.25	+ Tolerance mm : + 0.50	
		+	
		•	

Rated speed rpm	: 752
rack travel mm	: 12.30
Rated speed rpm	: 782
Tolerance 1/min	: +- 4
rack travel mm	: 5.50
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 900
Rated speed rpm	: 753
rack travel mm	: 12.30
Rated speed rpm Tolerance 1/min rack travel mm	
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 754
rack travel mm	: 12.30
Rated speed rpm	: 784
Tolerance 1/min	: + 4
rack travel mm	: 5.50
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 900
Rated speed rpm	: 755
rack travel mm	: 12.30
Rated speed rpm	: 785
Tolerance 1/min	: +- 4
rack travel mm	: 5.50
rack travel mm	: 0.50
Tolerance mm	: + 0.50
TORQUE CONTROL	
Rated speed rpm	: 700
rack travel mm	: 13.30
Tolerance mm	: +- 0.05
START CUT-OUT	
Rated speed rpm	: > 100
Rated speed rpm	: < 560
Check speed 1/min	: > 80

Check speed 1/min	: <	580	
STARTING FUEL DEL	IVERY		
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +-	20.0	
LOW IDLE			
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: +-	300 4.90 0.20 20.0	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	: +-	4.90 0.20 20.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 18.04.96 Edition Test oil : ISO 4113

Combination No. : 0 402 648 865

Injection pump

Pump designation : PE8P12OA32OLS78O1-4

: 0 412 628 839 EP type number

Governor

Governer design. : RQV350...1050PA866

: -5

: 0 421 813 767 Governer no.

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : OM442 A Motor : 260.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

: 208.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: 26.0 Tolerance bar : + 1.0

5,25 Prestroke mm : +- 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 20.50 Tolerance mm : +- 0.50

Firing order : 8-7-2-6-3 : - 5- 4- 1

Phasing : 0-45-90-135-180

: -225-270-315 : + - 0.30Tolerance

Check

tolerance $^{\circ}NW$: \leftarrow 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.85 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 182.0

H11

Tolerance cm3/1000 strokes : +-	- 1.0	Rack travel in mm Tolerance mm	: 17.25 : +- 0.75
Check tolerance cm3/1000s. : +-	· 4.0		
Spreed Tolerance cm3/1000 strokes :	5.0	Rated speed rpm Aneroid pressure hPa	AT FULL LOAD STOP : 1050 : 1100
Check tolerance cm3/1000s. :	9.0	Del. quantity cm3/1000 strokes Tolerance	
Rated speed rpm :	350	cm3/1000 strokes Check tolerance	: + 1.0
Rack travel in mm : Tolerance mm : +- Del. quantity	5.70	cm3/1000s. Spreed Tolerance	: +- 4.0
cm3/1000 strokes : Tolerance	+	cm3/1000 strokes Check tolerance	
cm3/1000 strokes : +- Check tolerance	+	cm3/1000s.	: 9.0
cm3/1000s. : +- Spreed Tolerance	1	CONTROL LEVER	
cm3/1000 strokes : Check tolerance cm3/1000s. :	10.0	control lever positiön degree	: 119.0
(B) SETTING OF INJECTI	ON PLIMP	tolerance degree RATED SPEED	: +- 4.0
WITH GOVERNOR		rack travel mm	: 11.80
GUIDE SLEEVE TRAVEL		Rated speed rpm Tolerance 1/min	: 1095 : + 5
Rated speed rpm : guide sleeve travel mm :	1.30	rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1175 : + 15
	0.20		: 0.75 : +- 0.75 : 1300
travel mm :	9.50 0.15		
Rated speed rpm : guide sleeve	600	FOM IDTE	
travel mm : +	5.00 0.25	control lever position degree	: 68.0
guide sleeve	1100	tolerance degree	
travel mm : +-	8.25 0.25	Testing: Rated speed rpm	: 350
GUIDE SLEEVE POSITION		rack travel mm	: 5.70 : +- 0.10
Rated speed rpm :	1130	Rated speed rpm	: 250

H12

CDT mm mile	. > 7 70	+ Aneroid pressure	. 4400
CRT mm min.	: > 7.30	+ hPa + Rated speed rpm	: 1100 : 700
Rated speed rpm	: 450	+ Del. quantity	
, ,		+ cm3/1000 strokes	: 215.0
TODOUR CONTROL	and the state of the section of the	Tolerance	
TORQUE CONTROL		+ cm3/1000 strokes + Check tolerance	: +- 2.0
Rated speed rpm	: 1050	cm3/1000s.	: +- 5.0
rack travel mm	: 12.85	1 0 1	•
Tolerance mm	: +- 0.05	+ Tolerance	2.2
Rated speed rpm	: 700	+ cm3/1000 strokes + Check tolerance	: 8.0
rack travel mm		- cm3/1000s.	: 12.0
Tolerance mm		+	
		+ Aneroid pressure	
Rated speed rpm		+ hPa	: 1100
rack travel mm Tolerance mm	: 13.55 : +- 0.05	+ Rated speed rpm + Del. quantity	: 1050
iotei di ite imi	0.05	cm3/1000 strokes	: 153.0
Rated speed rpm	: 830	+ Tolerance	
rack travel mm	: 14.40	+ cm3/1000 strokes	: +- 1.0
Tolerance mm	: + 0.10	+ Check tolerance	/ O
		- cm3/1000s. - Spreed	: ← 4.0
ANEROID/ALTITUDE		+ Tolerance	
COMPENSATOR TEST		+ cm3/1000 strokes	: 8.0
		+ Check tolerance	40.5
SETTING		t cm3/1000s.	: 12.0
SELLTING		T Aneroid pressure	
Rated speed rpm	: 600	+ hPa	• —
Pressure hPa	: -	+ Rated speed rpm	: 500
AART A OLI IN THANKS TO		+ Del. quantity	. 41/ 0
MEASUREMENT		+ cm3/1000 strokes + Tolerance	: 144.0
Rated speed rpm	: 600	+ cm3/1000 strokes	: +- 1.0
•		Check tolerance	
Pressure hPa	: 420	+ cm3/10005.	: +- 4.0
rack travel mm	: 0.80 : +- 0.05	+ Spreed + Tolerance	
Tolerance mm	: 0.05	+ cm3/1000 strokes	: 8.0
Pressure hPa	: 600	Check tolerance	. 0.0
rack travel mm	: 2.40	- cm3/1000s.	: 12.0
Tolerance mm	: +- 0.10	†	
		BREAKAWAY	
START CUT-OUT		- UNITARY!	
			44 85
Rated speed rpm		+ Rack travel in mm	
Rated speed rpm	: < 270	+ Rated speed rpm + Tolerance 1/min	: 1095 : +- 5
Check		+ Total Gille Thirt	• • •
speed 1/min	; > 80	+	
Check			T1 (PPN)
speed 1/min	: < 250	+ STARTING FUEL DEL	TVERY
		- Rated speed rpm	: 100
FUEL DELIVERY CHA	ARACTERISTICS	Del. quantity	. 130
	· · · · · · · · · · · · · · · · · · ·	+ cm3/1000 strokes	: 190.0

Tolerance			
cm3/1000 strokes	:	+-	10.0
Check tolerance			
cm3/1000s.	•	+	14.0

LOW IDLE

Rated speed rpm rack travel mm Tolerance mm	: 350 : 5.70 : + 0.30
Del. quantity cm3/1000 strokes Tolerance	: 19.0
cm3/1000 strokes	: +- 3.0
Check tolerance cm3/1000S. Spreed	: +- 6.0
Tolerance cm3/1000 strokes Check tolerance	: 6.0
cm3/1000s.	: 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.04.96 Test oil : ISO 4113

Combination No. : 0 402 648 889

Injection pump

Pump designation : PE8P120A320LS7816

: -10

EP type number : 0 412 628 836

Governor

Governer design. : RQ300/950PA932-7 Governer no. : 0 421 801 743

Cust. part No. : 0190745502

Customer—spec. information
Customer : MB-NFZ
Motor : 0M442 LA
Power KW : 362.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 20.50Tolerance mm : + 0.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : + 0.30

Check

tolerance $^{\circ}NW$: + 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm: 14.70

Rack travel in mm : 14.70 Tolerance mm : + 0.05

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 256.0	Check tolerance cm3/1000s. : 9.0
Tolerance cm3/1000 strokes : + 1.0	CONTROL LEVER
Check tolerance cm3/1000s. : +- 4.0	control lever position degree : 101.0
Spreed Tolerance cm3/1000 strokes : 6.0	tolerance degree : +- 4.0 RATED SPEED
Check tolerance cm3/1000s. : 9.0	rack travel mm : 14.40 Rated speed rpm : 998
Rated speed rpm : 300	Tolerance 1/min : +- 8
Rack travel in mm: 6.20	rack travel mm : 4.00 Rated speed rpm : 1085
Tolerance mm : + 0.30 Del. quantity	Tolerance 1/min : +- 15
cm3/1000 strokes : 16.0 + Tolerance cm3/1000 strokes : + 3.0 +	rack travel mm : 0.75 Tolerance mm : +- 0.75 Rated speed rpm : 1150
Check tolerance cm3/1000s. : + 6.0	Nated Speed (pm : 1130
Spreed +	LOW IDLE
cm3/1000 strokes : 6.0 + Check tolerance +	
cm3/1000s. : 10.0	control lever position degree : 74.0 tolerance degree : +- 4.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Testing:
	Rated speed rpm : 300 rack trayel mm : 6.20
GUIDE SLEEVE POSITION	Tolerance mm : +- 0.10
Rated speed rpm : 600	rack travel mm : 2.00 Rated speed rpm : 405
Rack travel in mm : 20.00 + Tolerance mm : + 0.80 +	Tolerance 1/min : + 20
	Rated speed rpm : 200
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : > 7.80
Rated speed rpm : 600 Aneroid pressure hPa : 1000	TORQUE CONTROL
Del. quantity +	Rated speed rpm : 600 rack travel mm : 14.70
cm3/1000 strokes : 256.0 + Tolerance + 1.0 + 1.0	rack travel mm : 14.70 Tolerance mm : +- 0.05
Check tolerance cm3/1000s. : +- 4.0 +-	Rated speed rpm : 950 rack travel mm : 15.40
Spreed Tolerance	Tolerance mm : +- 0.10
cm3/1000 strokes : 6.0	Rated speed rpm : 800

H16

rack travel mm Tolerance mm		+ Check tolerance - cm3/1000s. : 12.0
ANEROID/ALTITUDE COMPENSATOR TEST		+ Aneroid pressure + hPa : - Rated speed rpm : 500 + Del. quantity
MEASUREMENT		+ cm3/1000 strokes : 142.0 + Tolerance + cm3/1000 strokes : + 1.0
Pressure hPa rack travel mm	: 350 : -2.90	Check tolerance - cm3/1000s. : + 4.0 - Spreed
Tolerance mm	: +- 0.05	Tolerance cm3/1000 strokes : 8.0
Pressure hPa rack travel mm Tolerance mm	: 700 : −0.80 : ← 0.10	+ Check tolerance + cm3/1000s. : 12.0
Pressure hPa rack travel mm Tolerance mm	: 0.30	Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 142.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0 BREAKAWAY Rack travel in mm : 14.40
Pressure hPa rack travel mm Tolerance mm	: 1300 : 0.70 : +- 0.10	+ Rack travel in mm : 14.40 + Rated speed rpm : 998 + Tolerance 1/min : + 8 +
		STARTING FUEL DELIVERY
FUEL DELIVERY CHA	ARACTERISTICS	+ Rated speed rpm : 100 + Del. quantity
Aneroid pressure hPa Rated speed rpm	: 1600 : 950	+ cm3/1000 strokes : 250.0 + Tolerance + cm3/1000 strokes : + 10.0
Del. quantity cm3/1000 strokes Tolerance		Check tolerance : +- 14.0
cm3/1000 strokes Check tolerance	. .	+
cm3/1000S. Spreed Tolerance	: +- 4.5	LOW IDLE
cm3/1000 strokes Check tolerance cm3/1000s.	: 8.0 : 12.0	+ Rated speed rpm : 300 + rack travel mm : 6.20 + Tolerance mm : + 0.30
Aneroid pressure		Del. quantity cm3/1000 strokes : 16.0
hPa Rated speed rpm Del. quantity	: 1600 : 800	+ Tolerance + cm3/1000 strokes : +- 3.0 + Check tolerance
cm3/1000 strokes Tolerance		cm3/1000s. : +- 6.0 Spreed
cm3/1000 strokes Check tolerance cm3/1000s.	: + 2.0 : + 5.0	Tolerance cm3/1000 strokes : 6.0 Check tolerance
Spreed Tolerance		- cm3/1000s. : 10.0
cm3/1000 strokes	: 8.0	T

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.04.96 Test oil : ISO 4113

Combination No. : 0 402 648 904

Injection pump

Pump designation : PE8P12OA32OLS78O1-1

EP type number : 0 412 628 818

Governor

Governer design. : RQV350...1050PA866

: -9

Governer no. : 0 421 813 906

Cust. part No. :

Customer-spec. information Customer : MB-NFZ Motor : 0M442 LA Power KW : 260.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity

: 110 min. L/h Tolerance l/h : +- 10.0

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 5.25 : + 0.05Tolerance mm Check

: + 0.10tolerance mm

Rack travel in mm : 20.50 Tolerance mm : \leftarrow 0.50

: 8-7-2-6-3 Firing order : - 5- 4- 1

: 0-45-90-135-180 Phasing : -225-270-315

Tolerance : + - 0.30

Check

: +- 0.50 tolerance °NW

Start of delivery mark

Barrel no.

BASIC SETTING

Rated speed rpm 500

Rack travel in mm: 13.90

Rack travel in mm: 13.90 Tolerance mm : + 0.10

: + 0.10 Tolerance mm

Del. quantity +	guide sleeve
cm3/1000 strokes : 202.0 +	travel mm : 10.05
1	Tolerance mm : +- 0.25
Tolerance	
cm3/1000 strokes : $+$ 1.0	
1.0	GUIDE SLEEVE POSITION
Check tolerance	GOIDE SECENT LOSTITON
	Data di anno di mani di 1170
cm3/1000s. : +- 4.0 +	Rated speed rpm : 1130
	D 1 4 1 1 4 3 05
Spreed	Rack travel in mm : 17.25
Tolerance	Tolerance mm : +- 0.75
cm3/1000 strokes : 5.0	
Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : 9.0	
+	Rated speed rpm : 500
Rated speed rpm : 350	Aneroid pressure
1	hPa : 700
Rack travel in mm: 5.80	Del. quantity
Tolerance mm : + 0.30 +	cm3/1000 strokes : 202.0
Del. quantity	Tolerance
cm3/1000 strokes : 19.0	cm3/1000 strokes : +- 1.0
Tolerance	Check tolerance
cm3/1000 strokes : +- 3.0	cm3/1000s. : +- 4.0
Check tolerance	Spreed
cm3/1000s. : + 6.0	Tolerance
Spreed	cm3/1000 strokes : 5.0
Tolerance +	Check tolerance
cm3/1000 strokes : 6.0 +	cm3/1000s. : 9.0
Check tolerance +	
cm3/1000s. : 10.0 +	
4	
<u> </u>	CONTROL LEVER
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	control lever
	position degree : 99.0
	tolerance degree : + 4.0
GUIDE SLEEVE TRAVEL	toter drive degree 4.0
GOINE SEEFAE LUMAET	RATED SPEED
Rated speed rpm : 350	RATED SPEED
	made danger = 11 00
guide sleeve	rack travel mm : 11.90
travel mm : 1.55	Rated speed rpm : 1095
Tolerance mm : + 0.25	Tolerance 1/min : +- 5
+	
Rated speed rpm : 1107	rack travel mm : 4.00
guide sleeve +	Rated speed rpm : 1175
travel mm : 8.05 +	Tolerance 1/min : + 15
Tolerance mm : + 0.25 +	
+	rack travel mm : 0.75
Rated speed rpm : 570 +	Tolerance mm : +- 0.75
guide sleeve	Rated speed rpm : 1300
travel mm : 3.55	
Tolerance mm : + 0.25	
1000101100 11811	
Rated speed rpm : 900	LOW IDLE
	LOW IDEE
guide sleeve	
travel mm : 5.65	andral lover
Tolerance mm : + 0.25	control lever
†	position degree : 49.0
Rated speed rpm : 1204 +	tolerance degree : + 4.0
4100	

H20

Testing:		İ
restrigi		FUEL DELIVERY CHARACTE
Rated speed rpm	: 350	+
rack travel mm	: 5.80	+ Aneroid pressure
Tolerance mm	: +- 0.10	+ hPa :
		+ Rated speed rpm :
Rated speed rpm	: 100	+ Del. quantity
	, ,,,,	+ cm3/1000 strokes :
RT mm min.	: > 7.40	+ Tolerance
are dinis mente	. > 1.40	- cm3/1000 strokes : +
	. /50	+ Check tolerance
ted speed rpm	: 450	
		+ cm3/1000s. : +-
		+ Spreed
RQUE CONTROL		+ Tolerance
		+ cm3/1000 strokes :
ted speed rpm	: 500	+ Check tolerance
ick travel mm	: 13.90	+ cm3/1000s. :
lerance mm	: + 0.10	+
		+ Aneroid pressure
ated speed rpm	: 1050	+ hPa :
ick travel mm	: 12.90	Rated speed rpm
olerance mm	: + 0.10	Del. quantity
ACCIDENCE NAME	• • 0.10	+ cm3/1000 strokes :
sted coard ====	: 750	+ Tolerance
ated speed rpm		
ck travel mm		+ cm3/1000 strokes : +-
olerance mm	: +- 0.10	+ Check tolerance
		+ cm3/1000s. : ←
······································	······································	
NEROID/ALTITUDE		+ Tolerance
OMPENSATOR TEST		+ cm3/1000 strokes :
		+ Check tolerance
		+ cm3/1000s. :
		+
ASUREMENT		+ Aneroid pressure
		+ hPa :
essure hPa	: 400	+ Rated speed rpm :
ick travel mm	: -1.50	Del. quantity
olerance mm	: +- 0.05	cm3/1000 strokes :
ACCIDING IIII	י י	Tolerance
LD-	. 500	cm3/1000 strokes : +-
ressure hPa	: 500	
ick travel mm	: -0.60	+ Check tolerance
olerance mm	: +- 0.10	+ cm3/1000s. : +-
	A. -	+ Spreed
essure hPa	: 925	+ Tolerance
ick travel mm	: 0.25	+ cm3/1000 strokes :
lerance mm	: ← 0.05	+ Check tolerance
		+ cm ³ /1000s. :
ART CUT-OUT		,
ART CUT-OUT		↓ BREAKAWAY
	· > 100	BREAKAWAY
ated speed rpm		BREAKAWAY
ated speed rpm		+
ated speed rpm ated speed rpm		Rack travel in mm :
ated speed rpm ated speed rpm	: < 270	Rack travel in mm : Rated speed rpm : 1
TART CUT-OUT ated speed rpm ated speed rpm heck beed 1/min		Rack travel in mm : Rated speed rpm : 1
ted speed rpm ted speed rpm eck eed 1/min eck	: < 270 : > 80	Rack travel in mm : Rated speed rpm : 1
eed speed rpm eed speed rpm eck eed 1/min	: < 270	+

FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1100 : 1050
Del. quantity cm3/1000 strokes	: 182.5
Tolerance cm3/1000 strokes	: +- 1.5
Check tolerance cm3/1000s. Spreed	: +- 4.5
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000S.	: 12.0
Aneroid pressure	: 1100
Rated speed rpm	: 750
Del. quantity cm3/1000 strokes Tolerance	: 215.0
cm3/1000 strokes Check tolerance	: + 2.0
cm3/1000s. Spreed	: +- 5.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
Aneroid pressure	: -
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes Tolerance	: 144.0
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s. Spreed	: +- 4.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 11.90 : 1095 : +- 5

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 230.0
Tolerance
cm3/1000 strokes : +- 10.0
Check tolerance
cm3/1000s. : +- 14.0

LOW IDLE

Rated speed rpm 350 5.80 rack travel mm 0.30 Tolerance mm Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 30.08.95 Edition Test oil : ISO 4113

Combination No. : 0 402 648 9678

Injection pump

Pump designation : PE8P120A320LS7871 EP type number : 0 412 628 877

Governor

Governer design. : RQV300...1050PA1078

: -1K

: 0 421 815 361 Governer no.

Cust. part No. : 9278734

Customer-spec. information Customer : LIEBHERR Motor : D 9408 TI-E Power KW : 400.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : ← 1.0

Prestroke mm Tolerance mm : 3.65 : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-8-7-2-6

: - 3- 5- 4

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : **←** 0.30

Check

tolerance "NW : + 0.50

BASIC SETTING

Rated speed rpm : 950

Rack travel in mm : 11.80

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 283.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

: +- 4.0

Spreed

Tolerance +	guide sleeve
cm3/1000 strokes : 5.0	travel mm : 13.50 Tolerance mm : + 0.50
Check tolerance cm3/1000s. : 9.0	
Rated speed rpm : 400	FULL LOAD DELIVERY AT FULL LOAD STOP
Rack travel in mm: 4.50	Rated speed rpm : 950 Aneroid pressure
Tolerance mm : + 0.10	hPa : -
Del. quantity + cm3/1000 strokes : 20.0 +	Del. quantity cm3/1000 strokes : 283.5
Tolerance	Tolerance
cm3/1000 strokes : + 3.0 + Check tolerance	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000s. : + 6.0	cm3/1000s. : + 4.0
Spreed	Spreed
Tolerance + cm3/1000 strokes : 6.0 +	Tolerance cm3/1000 strokes : 5.0
Check tolerance	Check tolerance
cm3/1000s. : 10.0	cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER
	control lever
GUIDE SLEEVE TRAVEL	position degree : 115.0 tolerance degree : +- 4.0
Rated speed rpm : 300	
guide steeve + 1.69 +	RATED SPEED
Tolerance mm : + 0.25	rack travel mm : 10.85
Rated speed rpm : 1117	Rated speed rpm : 995 Tolerance 1/min : +- 5
guide sleeve	
travel mm : 10.38 + O.25	rack travel mm : 4.00 Rated speed rpm : 1105
+	Tolerance 1/min : +- 15
Rated speed rpm : 746	modulational management of FO
guide sleeve + travel mm : 6.20 +	rack travel mm : 0.50 Tolerance mm : + 0.50
Tolerance mm : + 0.25	Rated speed rpm : 1165
Rated speed rpm : 353 - guide sleeve	
travel mm : 2.45 +	LOW IDLE
Tolerance mm : + 0.25	
Rated speed rpm : 403	control lever position degree : 78.0
travel mm : 3.18	tolerance degree : + 4.0
Tolerance mm : + 0.25	Testing:
Rated speed rpm : 450	
guide steeve + travel mm : 3.66 +	Rated speed rpm : 400 rack travel mm : 4.50
Tolerance mm : +- 0.25 +	Tolerance mm : 4.50
Rated speed rpm : 1320 +	Rated speed rpm : 500
H2/	

	+	Tolerance
TORQUE CONTROL		cm3/1000 strokes : +- 3.0 Check tolerance
Rated speed rpm : 950 rack travel mm : 11.	80 	cm3/1000s. : + 6.0 Aneroid pressure
Tolerance mm : + 0.	05	hPa : - Rated speed rpm : 500
Rated speed rpm : 800		Del. quantity
rack travel mm : 11. Tolerance mm : + 0.		cm3/1000 strokes : 270.0 Tolerance
	+	cm3/1000 strokes : + 3.0
Rated speed rpm : 600 rack travel mm : 10.		Check tolerance cm3/1000s. : +- 6.0
Tolerance mm : +- 0.		tilis/10005. ; +- 6.0
	+	Aneroid pressure
Rated speed rpm : 500 rack travel mm : 9.	75	hPa : - Rated speed rpm : 500
rack travel mm : 9. Tolerance mm : + 0.	10 +	Del. quantity
		cm3/1000 strokes : 225.0 Tolerance
ANEROID/ALTITUDE	+	cm3/1000 strokes : + 1.0
COMPENSATOR TEST	<u>†</u>	Check tolerance cm3/1000s. : +- 4.0
	Į	Spreed
SETTING	+	Tolerance
Rated speed rpm : 950	Ī	cm3/1000 strokes : 8.0 Check tolerance
Pressure hPa : 1600	+	cm3/1000s. : 12.0
rack travel mm : 11.3 Tolerance mm : + 0.3		
TO COT GITCE THE	+	BREAKAWAY
MEASUREMENT	İ	
Pressure hPa : -	Ŧ	Rack travel in mm: 10.85
Rated speed rpm : 950 rack travel mm : 9.3		Rated speed rpm : 995 Tolerance 1/min : + 5
Tolerance mm : + 0.		Tolerance 1/min : +- 5
	+	
Rated speed rpm : 950	‡	STARTING FUEL DELIVERY
Pressure hPa : 900		
rack travel mm : 10.8 Tolerance mm : + 0.0		Rated speed rpm : 100 rack travel mm : 9.60
	+	Tolerance mm : + 0.20
Pressure hPa : 700 rack travel mm : 9.3		Del. quantity cm3/1000 strokes : 170.0
Tolerance mm : + 0.		Tolerance
	+	cm3/1000 strokes : +- 10.0
	‡	Check tolerance : + 14.0
FUEL DELIVERY CHARACTERIST	.cs ‡	
Aneroid pressure	+	
hPa : -	†	LOW IDLE
Rated speed rpm : 800 Del. quantity	Į	Rated speed rpm : 400
cm3/1000 strokes : 295.	0 +	rack travel mm : 4.50
	+	Tolerance mm : +- 0.10

Del. quantity		
cm3/1000 strokes	:	20.0
Tolerance		
cm3/1000 strokes	: +	3.0
Check tolerance		
cm3/1000s.	: +-	6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance		
cm3/1000s.	:	10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.04.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 746 649

Injection pump

Pump designation : PES6P12OA32ORS7359 EP type number : 0 412 726 925

Governor

Governer design. : RQ275/1050PA1217 Governer no. : 0 421 801 782

Cust. part No. : CCEP5150A 66 : -225/228

Customer-spec. information

Customer : RENAULT V.I. : MIDRO62045 I-B41 Motor

Power KW : 185.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 220 Tolerance L/h : + 10.0

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Tolerance bar : + 26.0

Prestroke mm : 4.70 Tolerance mm : + 0.05 Check tolerance mm : \leftarrow 0.10

Rack travel in mm: 20.25 Tolerance mm $: \leftarrow 0.75$

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.30 Check

tolerance *NW : **←** 0.50

Start of delivery mark

*NW after s.o.d. : -0.95 Tolerance : + 0.50 Check

tolerance °NW : + 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 600

	, • , • , · ,
Deal Americal Survey 42 40	+ guide sleeve
Rack travel in mm : 12.40 Tolerance mm : +- 0.05	+ travel mm : 4.37 + Tolerance mm : +- 0.10
roterance in the color	T (oterance mm) : The o. to
Del. quantity	Rated speed rpm : 490
cm3/1000 strokes : 186.0	guide sleeve
10010	+ travel mm : 6.00
Tolerance	+ Tolerance mm : + 0.10
cm3/1000 strokes : +- 1.0	
	Rated speed rpm : 1340
Check tolerance	+ guide sleeve
cm3/1000s. : +- 4.0	+ travel mm : 11.50
	+ Tolerance mm : +- 0.50
Spreed	+
Tolerance	
cm3/1000 strokes : 5.0	+ GUIDE SLEEVE POSITION
	+
Check tolerance	+ Rated speed rpm : 600
cm3/1000s. : 9.0	†,
Marked toward many 27°	+ Rack travel in mm: 20.00
Rated speed rpm : 275	Tolerance mm : + 0.80
Rack travel in mm : -6.10	Ť
Rack travel in mm : -6.10 Tolerance mm : + 0.20	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity	T FOLL EOAD DELIVER! AT FOLL LOAD STOP
cm3/1000 strokes : 33.0	Rated speed rpm : 600
Toterance	+ Aneroid pressure
cm3/1000 strokes : +- 2.0	+ hPa : 1000
Check tolerance	+ Del. quantity
cm3/1000s. : + 5.0	+ cm3/1000 strokes : 186.0
Spreed	+ Tolerance
Tolerance	+ cm3/1000 strokes : +- 1.0
cm3/1000 strokes : 8.0	+ Check tolerance
Check tolerance	+ cm3/1000s. : $+$ 4.0
cm3/1000s. : 12.0	+ Spreed
	+ Tolerance
	+ cm3/1000 strokes : 5.0
(B) SETTING OF INJECTION PUMP	+ Check tolerance
WITH GOVERNOR	† cm3/1000s. : 9.0
	†
CUTAT OF FEVE TRAVEL	†
GUIDE SLEEVE TRAVEL	CONTROL LEVER
Rated speed rpm : 275	I CONTROL LEVER
guide sleeve	T control lever
travel mm : 1.37	position degree : 274.0
Tolerance mm : + 0.10	tolerance degree : + 4.0
TO SOT WITHOUT THE TOTAL OF THE	
Rated speed rpm : 1137	+ RATED SPEED
guide sleeve	+
travel mm : 6.37	+ rack travel mm : -1.00
Tolerance mm : +- 0.10	+ Rated speed rpm : 1130
	Tolerance 1/min : + 5
Rated speed rpm : 1050	+
guide sleeve	+ rack travel mm : -8.40
travel mm : 6.00	+ Rated speed rpm : 1245
Tolerance mm : +- 0.10	Tolerance 1/min : + 15
704	44.00
Rated speed rpm : 391	rack travel mm : -11.90
	+ Tolerance mm : $+$ 0.50

Rated speed rpm	: 1350	†		
			START CUT-OUT	
LOW IDLE			Rated speed rpm Rated speed rpm	: > 100 : < 195
control lever position degree tolerance degree		+	Check speed 1/min Check	: > 80
Testing:		‡	speed 1/min	: < 215
Rated speed rpm rack travel mm	: -6.10	1	FUEL DELIVERY CHA	RACTERISTICS
Tolerance mm rack travel mm		‡	Aneroid pressure hPa Rated speed rpm	: 1000 : 1050
Rated speed rpm Tolerance 1/min	: 385	Ī	Del. quantity cm3/1000 strokes	
Rated speed rpm	: 200	‡	Tolerance cm3/1000 strokes Check tolerance	: +- 3.0
CRT mm min.	: < -4.90	‡	cm3/1000s.	: +- 6.0
TORQUE CONTROL		+	Aneroid pressure hPa Rated speed rpm	: – : 500
Rated speed rpm	: 600	I	Del. quantity cm3/1000 strokes	
Rated speed rpm Tolerance man		‡	Tolerance cm3/1000 strokes Check tolerance	: + 1.0
ANEROID/ALTITUDE COMPENSATOR TEST		+	cm3/1000s.	: + 4.0
SETTING		‡	BREAKAWAY	
Rated speed rpm Pressure hPa	: 500 : 1000	1	Rack travel in mm Rated speed rpm Tolerance 1/min	: -1.00 : 1130 : + 5
MEASUREMENT		‡		
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	500 -1.50 + 0.20	-	STARTING FUEL DEL Rated speed rpm Del. quantity cm3/1000 strokes	: 100
Rated speed rpm	: 500	Ŧ	Tolerance cm3/1000 strokes	
Pressure hPa rack travel mm Tolerance mm	: 320 : -0.45 : ← 0.15	+	Check tolerance cm3/1000s.	: +- 19.0
Pressure hPa rack travel mm Tolerance mm	: 160 : -1.20 : + 0.05	‡	LOW IDLE	

Rated speed rpm	:	275
rack travel mm	:	-6.10
Tolerance mm	: +	0.20
Del. quantity		
cm3/1000 strokes	:	33.0
Tolerance		
cm3/1000 strokes	: +	2.0
Check tolerance		
cm3/1000s.	: +	5 .0
Spreed		
Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.04.96 Test oil : ISO 4113

Combination No. : 0 402 746 953

Injection pump

Pump designation : PES6P12OA32ORS7294 EP type number : 0 412 726 895

Governor

Governer design. : RQV275...1000PA1001

: -1

Governer no. : 0 421 813 936

Cust. part No. : CCEP-5135 66-213

Customer-spec. information

Customer : RENAULT V.I.
Motor : MIDR 063540 J/3

Power KW : 306.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 079

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05
Check

Lneck

tolerance mm : + 0.10

Rack travel in mm : 13.50 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : \leftarrow 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Tolerance : + 0.50

Check

tolerance 'NW : + 0.70

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 13.70 Tolerance mm : + 0.05

	+ Rated speed rpm : 393
Del. quantity	guide sleeve
cm3/1000 strokes : 309.0	+ travel mm : 2.99
Tolerance	† Tolerance mm : +- 0.20
cm3/1000 strokes : +- 1.0	Rated speed rpm : 490 guide sleeve
Check tolerance	travel mm : 3.81
cm3/1000s. : +- 4.0	Tolerance mm : +- 0.20
Spreed	Rated speed rpm : 1370
Tolerance	+ guide sleeve
cm3/1000 strokes : 5.0	+ travel mm : 11.50
Charlestalannan	† Tolerance mm : + 0.50
Check tolerance cm3/1000s. : 9.0	İ
CIII 7 10005 7.0	GUIDE SLEEVE POSITION
Rated speed rpm : 300	-
The second secon	+ Rated speed rpm : 1185
Rack travel in mm : -8.60	+
Tolerance mm : +- 0.20	+ Rack travel in mm: 12.60
Del. quantity	+ Tolerance mm : +- 1.30
cm3/1000 strokes : 30.0 Tolerance	†
cm3/1000 strokes : +- 2.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	TOLE LOAD DELIVERY AT TOLE LOAD STOT
cm3/1000s. : + 6.0	+ Rated speed rpm : 600
Spreed	+ Aneroid pressure
Tolerance	+ hPa : 1000
cm3/1000 strokes : 8.0	+ Del. quantity
Check tolerance	+ cm3/1000 strokes : 309.0
cm3/1000s. : 12.0	Tolerance
	+ cm3/1000 strokes : + 1.0 + Check tolerance
(B) SETTING OF INJECTION PUMP	+ cm3/1000s. : +- 4.0
WITH GOVERNOR	+ Spreed
Haiii Germinell	+ Tolerance
	+ cm3/1000 strokes : 5.0
GUIDE SLEEVE TRAVEL	+ Check tolerance
	+ cm3/1000s. : 9.0
Rated speed rpm : 275	†
guide sleeve travel mm : 1.29	I
Tolerance mm : +- 0.10	CONTROL LEVER
	+
Rated speed rpm : 1086	+ control lever
guide steeve	+ position degree : 302.0
travel mm : 8.46	tolerance degree : +- 4.0
Tolerance mm : +- 0.10	DATES COLES
Rated speed rpm : 773	T RATED SPEED
Rated speed rpm : 773 guide sleeve	Track travel mm : -1.00
travel mm : 6.09	Rated speed rpm : 1080
Tolerance mm : + 0.20	+ Tolerance 1/min : + 5
	†
Rated speed rpm : 343	+ rack travel mm : -9.70
guide steeve	Rated speed rpm : 1220
travel mm : 2.33	Tolerance 1/min : +- 15
Tolerance mm : +~ 0.20	† + rack travel mm : -13.25
	1 TOOK CLUSTER THE TOTAL

Tolerance mm Rated speed rpm		+ rack travel mm : -0.85 + Tolerance mm : +- 0.05
LOW IDLE		START CUT-OUT
		Rated speed rpm : > 100 Rated speed rpm : < 225
control lever position degree tolerance degree	: 246.0 : +- 4.0	Check + speed 1/min : > 80 + Check
Testing:		speed 1/min : < 245
Rated speed rpm rack travel mm Tolerance mm	: -8.60	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 200	+ Aneroid pressure + hPa : 1000 + Rated speed rpm : 1000
CRT mm max.	: < -7.20	Del. quantity cm3/1000 strokes : 286.0
Rated speed rpm	: 370	Tolerance cm3/1000 strokes : +- 3.0
TORQUE CONTROL		
Rated speed rpm	: 600	Aneroid pressure hPa : 1000
Rated speed rpm Tolerance mm		Rated speed rpm : 500 Del. quantity
Rated speed rpm rack travel mm	: 500 : -5.50	+ cm3/1000 strokes : 137.0 + Tolerance + cm3/1000 strokes : +- 5.0
Tolerance mm	: + 0.10	- Check tolerance - cm3/1000s. : + 8.0
ANEROID/ALTITUDE COMPENSATOR TEST		Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance
SETTING		+ sm3/1000s. : 12.0
Rated speed rpm Pressure hPa	: 500 : 1000	+ Aneroid pressure + hPa : - + Rated speed rpm : 500 + Del. quantity
MEASUREMENT		cm3/1000 strokes : 152.0
Pressure hPa Rated speed rpm rack travel mm Tolerance mm		- cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
Rated speed rpm		BREAKAWAY
Pressure hPa rack travel mm Tolerance mm	: 240 : −3.70 : ← 0.20	Rack travel in mm: -1.00 Rated speed rpm: 1080 Tolerance 1/min: +- 5
Pressure hPa	: 600	+

STARTING FUEL DELIVERY

Del. quantity

cm3/1000 strokes : 160.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : +- 14.0

LOW IDLE

300 Rated speed rpm rack travel mm -8.60 Tolerance mm : + 0.20 Del. quantity cm3/1000 strokes : 30.0 Tolerance cm3/1000 strokes : --2.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 23.04.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 946 012

Injection pump

Pump designation : PES6P120A320R\$8031 EP type number : 0 412 926 022

Governor

Governer design. : RQV300...1000PA1181K

Governer no. : 0 421 815 975

Cust. part No. : CCEP 5145A 66-234

Customer-spec. information

Customer : RENAULT V.I. : MIDR 063540 P 41 Motor

Power KW : 300.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 : +- 1.5 Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar: Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : + 0.05 Check

tolerance mm : + 0.10

Rack travel in mm : 11.00 : +- 0.50 Tolerance mm

Firing order : 1-5-3-6-2-: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

*NW after s.o.d. : -0.17 Tolerance : + 0.50

Check

tolerance *NW : **←** 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

travel 19.50 Difference ° CS : 2.50

BASIC SETTING

	1		
Rated speed rpm : 1	000	Rated speed rpm	: 383
varea speed (bill : (I	guide sleeve	. 363
No. operation		travel mm	: 2.42
Rack travel in mm :	13.30	Tolerance mm	÷ 0.25
	0.05		
	+	Rated speed rpm	: 433
Del. quantity	+	guide sleeve	
cm3/1000 strokes :	360.0 +	travel mm	: 2.89
The second secon		Tolerance mm	: + 0.25
Tolerance cm3/1000 strokes : +-	1.0	Dated speed spm	: 530
CIIDY TOUGH SEPORES : T	1.0 I	Rated speed rpm guide sleeve	: 530
Check tolerance		travel mm	: 3.71
cm3/1000s. : +-	4.0	Tolerance mm	: +- 0.25
Spreed	+	Rated speed rpm	: 1350
Tolerance	+	guide sleeve	
cm3/1000 strokes :	5.0 +	travel mm	: 13.50
		Tolerance mm	: ← 0.50
Check tolerance	+		
cm3/1000s. :	9.0	CUIDE CLEEVE DOCT	T (A)
Pated speed spm	325	GUIDE SLEEVE POSIT	TOM
Rated speed rpm :	I	Rated speed rpm	: 1220
Rack travel in mm :	-7.80	Nated Speed I pill	. 1220
	0.20	Rack travel in mm	: 12.00
Del. quantity	1	Tolerance mm	: +- 2.00
cm3/1000 strokes :	38.0	10001 41100 11411	
Tolerance	1		
cm3/1000 strokes : +-	2.0	FULL LOAD DELIVERY	AT FULL LOAD STOP
Check tolerance	+		
cm3/1000s. : +-	6.0	Rated speed rpm	: 1000
Spreed	+	Aneroid pressure	4100
Tolerance	†	hPa	: 1400
cm3/1000 strokes :	8.0	Del. quantity	. 7/0 0
Check tolerance	12.0	cm3/1000 strokes	: 360.0
cm3/1000s. :	12.0	Tolerance cm3/1000 strokes	: + 1.0
	I	Check tolerance	. — 1.0
(B) SETTING OF INJECTION	N PLIMP A	cm3/1000s.	: +- 4.0
WITH GOVERNOR	1	Spreed	4.0
WITT GOTENITOR	+	Tolerance	
	_	cm3/1000 strokes	: 5.0
GUIDE SLEEVE TRAVEL	+	Check tolerance	
	+	cm3/1000s.	: 9.0
	300 +		
guide sleeve	+		
	1.47	CONTROL LOUIS	
Tolerance mm : +	0.25	CONTROL LEVER	
Rated speed rpm : 10	D82 I	control lever	
guide sleeve	I	position degree	295.0
travel mm :	9.30	tolerance degree	
Tolerance mm : +-		2200, 2,100 203, 00	
The second control of the second control of	+ 1	RATED SPEED	
Rated speed rpm : 7	797 🕂		
guide sleeve	+	rack travel mm	: -1.00
travel mm :	6.08	Rated speed rpm	
Tolerance mm : +-	0.25	Tolerance 1/min	: +- 5
100			

rack travel mm Rated speed rpm Tolerance 1/min	: −9.30 : 1210 : + 15
rack travel mm Tolerance mm Rated speed rpm	: +- 0.50
LOW IDLE	
control lever position degree tolerance degree	: 253.0 : + 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm	: 200
CRT mm max.	: < -6.00
Rated speed rpm	: 360
TORQUE CONTROL	
Rated speed rpm	: 1000
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 800 : -0.35 : +- 0.20
Rated speed rpm rack travel mm Tolerance mm	: 350 : -1.80 : + 0.25
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa Tolerance mm	: 1000 : 1400 : +- 0.10
MEASUREMENT	

Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 1000 : -5.50 : +- 0.20
Rated speed rpm	: 1000
Pressure hPa rack travel mm Tolerance mm	: 280 : -4.50 : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 560 : −3.00 : ← 0.05
START CUT-OUT	
Rated speed rpm Rated speed rpm	: > 175 : < 240
Check speed 1/min Check	: > 155
speed 1/min	: < 260
FUEL DELIVERY CHA	RACTERISTICS
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 390.0
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 600 : 390.0 : ← 3.0 : ← 6.0 : 500 : 201.0 : ← 1.0

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : + 0.75
Del. quantity
cm3/1000 strokes : 190.0
Tolerance
cm3/1000 strokes : + 15.0
Check tolerance
cm3/1000s : + 19.0

LOW IDLE

325 Rated speed rpm -7.80rack travel mm Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 38.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.04.96 Test oil : ISO 4113

Combination No. : 0 403 246 044

Injection pump

Pump designation : PES6MW100/720RS1522

EP type number : 0 413 206 023

Governor

Governer design. : RQV300...1300MW148

: -1

Governer no. : 0 420 083 322

Cust. part No. : 0250744602

Customer—spec. information
Customer : MB-NFZ
Motor : 0M366LA
Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : +- 1.0

Prestroke mm : 4.55
Tolerance mm : +- 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 20.00 Tolerance mm : + 1.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance "NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 14.45

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes :

cm3/1000 strokes : 133.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed Tolerance

cm3/1000 strokes : 5.0

111

Check tolerance	. 00	+ Tolerance mm : + 0.50
cm3/1000s.	: 8.0	GUIDE SLEEVE POSITION
Rated speed rpm		Rated speed rpm : 1500
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: +- 0.20	Rack travel in mm : 10.00 Tolerance mm : +- 2.70
Tolerance cm3/1000 strokes	: +- 2.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000s. Spreed Tolerance	: +- 4.5	Rated speed rpm : 1300 Aneroid pressure hPa : 1200
cm3/1000 strokes Check tolerance	: 2.0	Del. quantity - cm3/1000 strokes : 133.0
cm3/1000s.	: 4.0	Tolerance + cm3/1000 strokes : +- 1.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	Check tolerance cm3/1000S. : +- 4.0 Spreed Tolerance
GUIDE SLEEVE TRAV	EL	cm3/1000 strokes : 5.0 Check tolerance
Rated speed rpm guide sleeve	: 300	cm3/1000s. : 8.0
travel mm	: 0.92	+
Tolerance mm	: +- 0.25	CONTROL LEVER
Rated speed rpm guide sleeve		control lever position degree : 120.0
travel mm Tolerance mm	: 9.33 : +- 0.25	tolerance degree : +- 4.0
Rated speed rpm	: 1078	RATED SPEED
guide sleeve travel mm	: 7.06	+ rack travel mm : 13.45 + Rated speed rpm : 1345
Tolerance mm	: + 0.25	Tolerance 1/min : +- 5
Rated speed rpm guide sleeve	: 514	rack travel mm : 4.00 Rated speed rpm : 1500
travel mm Tolerance mm	: 2.14 : +- 0.25	Tolerance 1/min : + 15
Rated speed rpm guide sleeve	: 564	+ rack travel mm : 0.50 + Tolerance mm : + 0.50 + Rated speed rpm : 1600
travel mm Tolerance mm	: 2.47 : + 0.25	‡
Rated speed rpm guide sleeve	: 750	LOW IDLE
travel mm Tolerance mm	: 4.02 : +- 0.25	t control lever
Rated speed rpm	: 1720	+ position degree : 75.0 + tolerance degree : +- 4.0
guide sleeve travel mm	: 13.50	† Testing:

Section of the sectio	700	†
Rated speed rpm rack travel mm		FUEL DELIVERY CHARACTERISTICS
Tolerance mm		T FOLE DELIVERY CHARACTERISTICS
		Aneroid pressure
Rated speed rpm	: 200	+ hPa : 1200
		+ Rated speed rpm : 750
CRT mm min.	: > 5.50	+ Del. quantity
		cm3/1000 strokes : 128.0
TORQUE CONTROL		Tolerance + cm3/1000 strokes : +- 2.0
TORGOE CONTROL		Check tolerance
Rated speed rpm	: 1300	+ cm3/1000s. : +- 5.0
rack travel mm		Spreed
Tolerance mm	: +- 0.05	+ Tolerance
		+ cm3/1000 strokes : 6.0
Rated speed rpm	: 750	+ Check tolerance
rack travel mm		+ cm3/1000s. : 9.0
Tolerance mm	: +- 0.10	Anonoid procesure
-	· · · · · · · · · · · _ · · _ · · · · · · _ · · _ · · · _ · · · _ · · · · _ · ·	+ Aneroid pressure + hPa : -
ANEROID/ALTITUDE		Rated speed rpm : 500
COMPENSATOR TEST		Del. quantity
		+ cm3/1000 strokes : 46.0
		+ Tolerance
SETTING		+ cm3/1000 strokes : + 1.0
B 1 1	500	Check tolerance
Rated speed rpm Pressure hPa		+ cm3/1000s. : +- 3.0
rack travel mm	: 1200 : 14.45	Ī
I ack travet mm		
		BREAKAWAY
Tolerance mm	: + 0.10	BREAKAWAY
		BREAKAWAY
Tolerance mm MEASUREMENT		Rack travel in mm: 13.45
Tolerance mm MEASUREMENT Pressure hPa	: +- 0.10 : -	Rack travel in mm: 13.45 Rated speed rpm: 1345
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm	: +- 0.10 : - : 500	Rack travel in mm: 13.45
Tolerance mm MEASUREMENT Pressure hPa	: +- 0.10 : -	Rack travel in mm: 13.45 Rated speed rpm: 1345
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm	: + 0.10 : - : 500 : + 0.05	Rack travel in mm: 13.45 Rated speed rpm: 1345
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm	: + 0.10 : - : 500 : + 0.05	Rack travel in mm: 13.45 Rated speed rpm: 1345 Tolerance 1/min: + 5
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm	: + 0.10 : - : 500 : + 0.05	Rack travel in mm: 13.45 Rated speed rpm: 1345
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm	: +- 0.10 : - : 500 : +- 0.05 : 500 : 750 : 4.80	Rack travel in mm: 13.45 Rated speed rpm: 1345 Tolerance 1/min: + 5 STARTING FUEL DELIVERY Rated speed rpm: 100
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa	: +- 0.10 : - : 500 : + 0.05 : 500 : 750	Rack travel in mm: 13.45 Rated speed rpm: 1345 Tolerance 1/min: + 5 STARTING FUEL DELIVERY Rated speed rpm: 100 Del. quantity
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: + 0.10 : - : 500 : + 0.05 : 500 : 750 : 4.80 : + 0.10	Rack travel in mm: 13.45 Rated speed rpm: 1345 Tolerance 1/min: + 5 STARTING FUEL DELIVERY Rated speed rpm: 100 Del. quantity cm3/1000 strokes: 160.0
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa	: + 0.10 : - : 500 : + 0.05 : 500 : 750 : 4.80 : + 0.10 : 300	Rack travel in mm: 13.45 Rated speed rpm: 1345 Tolerance 1/min: + 5 STARTING FUEL DELIVERY Rated speed rpm: 100 Del. quantity cm3/1000 strokes: 160.0 Tolerance
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm	: + 0.10 : - : 500 : + 0.05 : 500 : 750 : 4.80 : + 0.10 : 300 : 1.50	Rack travel in mm: 13.45 Rated speed rpm: 1345 Tolerance 1/min: + 5 STARTING FUEL DELIVERY Rated speed rpm: 100 Del. quantity cm3/1000 strokes: 160.0 Tolerance cm3/1000 strokes: + 5.0
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa	: + 0.10 : - : 500 : + 0.05 : 500 : 750 : 4.80 : + 0.10 : 300	Rack travel in mm: 13.45 Rated speed rpm: 1345 Tolerance 1/min: + 5 STARTING FUEL DELIVERY Rated speed rpm: 100 Del. quantity cm3/1000 strokes: 160.0 Tolerance cm3/1000 strokes: + 5.0 Check tolerance
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm	: + 0.10 : - : 500 : + 0.05 : 500 : 750 : 4.80 : + 0.10 : 300 : 1.50	Rack travel in mm: 13.45 Rated speed rpm: 1345 Tolerance 1/min: + 5 STARTING FUEL DELIVERY Rated speed rpm: 100 Del. quantity cm3/1000 strokes: 160.0 Tolerance cm3/1000 strokes: + 5.0
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm	: + 0.10 : - : 500 : + 0.05 : 500 : 750 : 4.80 : + 0.10 : 300 : 1.50	Rack travel in mm: 13.45 Rated speed rpm: 1345 Tolerance 1/min: + 5 STARTING FUEL DELIVERY Rated speed rpm: 100 Del. quantity cm3/1000 strokes: 160.0 Tolerance cm3/1000 strokes: + 5.0 Check tolerance
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: + 0.10 : - : 500 : + 0.05 : 500 : 750 : 4.80 : + 0.10 : 300 : 1.50 : + 0.10	Rack travel in mm: 13.45 Rated speed rpm: 1345 Tolerance 1/min: + 5 STARTING FUEL DELIVERY Rated speed rpm: 100 Del. quantity cm3/1000 strokes: 160.0 Tolerance cm3/1000 strokes: + 5.0 Check tolerance
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm START CUT-OUT Rated speed rpm	: + 0.10 :	Rack travel in mm: 13.45 Rated speed rpm: 1345 Tolerance 1/min: + 5 STARTING FUEL DELIVERY Rated speed rpm: 100 Del. quantity cm3/1000 strokes: 160.0 Tolerance cm3/1000 strokes: + 5.0 Check tolerance cm3/1000s. : + 8.0
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm START CUT-OUT	: + 0.10 : - : 500 : + 0.05 : 500 : 750 : 4.80 : + 0.10 : 300 : 1.50 : + 0.10	Rack travel in mm: 13.45 Rated speed rpm: 1345 Tolerance 1/min: + 5 STARTING FUEL DELIVERY Rated speed rpm: 100 Del. quantity cm3/1000 strokes: 160.0 Tolerance cm3/1000 strokes: + 5.0 Check tolerance
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm	: + 0.10 :	Rack travel in mm: 13.45 Rated speed rpm: 1345 Tolerance 1/min: + 5 STARTING FUEL DELIVERY Rated speed rpm: 100 Del. quantity cm3/1000 strokes: 160.0 Tolerance cm3/1000 strokes: + 5.0 Check tolerance cm3/1000s. : + 8.0
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check	: +- 0.10 : : 500 : +- 0.05 : 500 : 750 : 4.80 : +- 0.10 : 300 : 1.50 : +- 0.10 : > 100 : < 200	Rack travel in mm: 13.45 Rated speed rpm: 1345 Tolerance 1/min: + 5 STARTING FUEL DELIVERY Rated speed rpm: 100 Del. quantity cm3/1000 strokes: 160.0 Tolerance cm3/1000 strokes: + 5.0 Check tolerance cm3/1000s. : + 8.0 LOW IDLE Rated speed rpm: 300
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check speed 1/min	: + 0.10 :	Rack travel in mm : 13.45 Rated speed rpm : 1345 Tolerance 1/min : + 5 STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 160.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0 LOW IDLE Rated speed rpm : 300 rack travel mm : 4.50
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check speed 1/min Check	: +- 0.10 : 500 : +- 0.05 : 500 : 750 : 4.80 : +- 0.10 : 300 : 1.50 : +- 0.10 : > 100 : < 200 : > 80	Rack travel in mm : 13.45 Rated speed rpm : 1345 Tolerance 1/min : + 5 STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 160.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0 LOW IDLE Rated speed rpm : 300 rack travel mm : 4.50 Tolerance mm : + 0.20
Tolerance mm MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check speed 1/min	: +- 0.10 : 500 : +- 0.05 : 500 : 750 : 4.80 : +- 0.10 : 300 : 1.50 : +- 0.10 : > 100 : < 200 : > 80	Rack travel in mm : 13.45 Rated speed rpm : 1345 Tolerance 1/min : + 5 STARTING FUEL DELIVERY Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 160.0 Tolerance cm3/1000 strokes : + 5.0 Check tolerance cm3/1000s. : + 8.0 LOW IDLE Rated speed rpm : 300 rack travel mm : 4.50

Tolerance		
cm3/1000 strokes	; +-	2.0
Check tolerance		
cm3/1000s.	: +	4.5
Spreed		
Tolerance		
cm3/1000 strokes	:	2.0
Check tolerance		
cm3/1000S.	:	4.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 18.04.96 Test oil : ISO 4113

Combination No. : 0 403 436 114A

Injection pump

Pump designation : PES6MW100/320/3RS119

: 4-1

EP type number : 0 413 406 221

Governor

Governer design. : RQV300...1300MW108K

Governer no. : 0 420 083 998

Cust. part No. :

Customer—spec. information Customer : PERKINS Motor : 180 TI

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : + 1.0

Prestroke mm : 3.35
Tolerance mm : +- 0.05
Check

tolerance mm : + 0.10

Rack travel in mm: 13.00
Tolerance mm: + 1.00

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

Start of delivery blocking

*NW before FB : 46.50

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.50 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 131.5

Tolerance

cm3/1000 strokes : + 1.0

	auda alagua
About Automore	guide sleeve
Check tolerance cm3/1000s. : +- 4.0	travel mm : 3.34 Tolerance mm : +- 0.25
Connect	Rated speed rpm : 1640
Spreed	
Tolerance	guide steeve
cm3/1000 strokes : 4.0	travel mm : 13.50
<u> </u>	Tolerance mm : + 0.50
Check tolerance	
cm3/1000s. : 7.5	
	GUIDE SLEEVE POSITION
Rated speed rpm : 300	
Mateu speed / pm · Sub	Rated speed rpm : 1400
Dool droved for any (90	Rated speed rpm : 1400
Rack travel in mm: 6.80	
Tolerance mm : + 0.20 +	Rack travel in mm : 10.00
Del. quantity +	Tolerance mm : +- 2.70
cm3/1000 strokes : 22.0 +	
Tolerance +	
cm3/1000 strokes : + 2.0 +	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	TOLE LOAD DELIVERY AT TOLE COAD STOT
	Dottod annual run 4 1700
1.113	Rated speed rpm : 1300
Spreed	Aneroid pressure
Tolerance +	hPa : 900
cm $3/1000$ strokes : 3.5	Del. quantity
Check tolerance	cm3/1000 strokes : 131.5
cm3/1000s. : 5.5	Tolerance
1. 3.3	cm3/1000 strokes : +- 1.0
Ţ	
T	Check tolerance
(B) SETTING OF INJECTION PUMP	cm3/1000s. : +- 4.0
WITH GOVERNOR +	Spreed
+	Tolerance
	cm3/1000 strokes : 4.0
GUIDE SLEEVE TRAVEL +	Check tolerance
GUIDE SLEEVE TRAVEL	Check tolerance
+	Check tolerance cm3/1000s. 7.5
Rated speed rpm : 300 +	
Rated speed rpm : 300 + guide sleeve +	
Rated speed rpm : 300 + guide sleeve + travel mm : 1.78	cm3/1000s. : 7.5
Rated speed rpm : 300 + guide sleeve +	
Rated speed rpm : 300 + guide sleeve + travel mm : 1.78	cm3/1000s. : 7.5
Rated speed rpm : 300 ; guide sleeve ; 1.78 ; Tolerance mm : + 0.25	cm3/1000s. : 7.5 CONTROL LEVER
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : + 0.25 Rated speed rpm : 1354	cm3/1000s. : 7.5 CONTROL LEVER control lever
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : + 0.25 Rated speed rpm : 1354 guide sleeve	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : + 0.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.73	cm3/1000s. : 7.5 CONTROL LEVER control lever
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : + 0.25 Rated speed rpm : 1354 guide sleeve	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0 tolerance degree : 4.0
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : + 0.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.13 Tolerance mm : + 0.25	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : + 0.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.73	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0 tolerance degree : 4.0 RATED SPEED
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : + 0.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.13 Tolerance mm : + 0.25 Rated speed rpm : 891	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : + 0.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.13 Tolerance mm : + 0.25 Rated speed rpm : 891 guide sleeve	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.50
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : + 0.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.13 Tolerance mm : + 0.25 Rated speed rpm : 891 guide sleeve travel mm : 6.43	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.50 Rated speed rpm : 1345
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : + 0.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.13 Tolerance mm : + 0.25 Rated speed rpm : 891 guide sleeve	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.50
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : + 0.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.13 Tolerance mm : + 0.25 Rated speed rpm : 891 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.50 Rated speed rpm : 1345 Tolerance 1/min : + 5
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : + 0.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.13 Tolerance mm : + 0.25 Rated speed rpm : 891 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25 Rated speed rpm : 307	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.50 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : + 0.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.13 Tolerance mm : + 0.25 Rated speed rpm : 891 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25 Rated speed rpm : 6.43 Tolerance mm : + 0.25	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.50 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1475
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : + 0.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.13 Tolerance mm : + 0.25 Rated speed rpm : 891 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25 Rated speed rpm : 307 guide sleeve travel mm : 307 guide sleeve travel mm : 1.83	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.50 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : + 0.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.13 Tolerance mm : + 0.25 Rated speed rpm : 891 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25 Rated speed rpm : 307 guide sleeve travel mm : 307 guide sleeve travel mm : 1.83	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.50 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1475
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : + 0.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.13 Tolerance mm : + 0.25 Rated speed rpm : 891 guide sleeve travel mm : 6.43 Tolerance mm : + 0.25 Rated speed rpm : 6.43 Tolerance mm : + 0.25	CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.50 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1475 Tolerance 1/min : + 15
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : 40.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.13 Tolerance mm : 40.25 Rated speed rpm : 891 guide sleeve travel mm : 6.43 Tolerance mm : 40.25 Rated speed rpm : 307 guide sleeve travel mm : 1.83 Tolerance mm : 1.83 Tolerance mm : 40.25	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.50 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1475 Tolerance 1/min : + 15 rack travel mm : 0.50
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : 40.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.13 Tolerance mm : 40.25 Rated speed rpm : 891 guide sleeve travel mm : 6.43 Tolerance mm : 40.25 Rated speed rpm : 307 guide sleeve travel mm : 1.83 Tolerance mm : 1.83 Tolerance mm : 40.25 Rated speed rpm : 357	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.50 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1475 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : 40.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.13 Tolerance mm : 40.25 Rated speed rpm : 891 guide sleeve travel mm : 6.43 Tolerance mm : 40.25 Rated speed rpm : 307 guide sleeve travel mm : 1.83 Tolerance mm : 40.25 Rated speed rpm : 307 guide sleeve travel mm : 1.83 Tolerance mm : 40.25	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.50 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1475 Tolerance 1/min : + 15 rack travel mm : 0.50
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : 40.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.13 Tolerance mm : 40.25 Rated speed rpm : 891 guide sleeve travel mm : 6.43 Tolerance mm : 40.25 Rated speed rpm : 307 guide sleeve travel mm : 1.83 Tolerance mm : 40.25 Rated speed rpm : 307 guide sleeve travel mm : 1.83 Tolerance mm : 40.25 Rated speed rpm : 357 guide sleeve travel mm : 2.46	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.50 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1475 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : 40.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.13 Tolerance mm : 40.25 Rated speed rpm : 891 guide sleeve travel mm : 6.43 Tolerance mm : 40.25 Rated speed rpm : 307 guide sleeve travel mm : 1.83 Tolerance mm : 40.25 Rated speed rpm : 307 guide sleeve travel mm : 1.83 Tolerance mm : 40.25	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.50 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1475 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : 40.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.13 Tolerance mm : 40.25 Rated speed rpm : 891 guide sleeve travel mm : 6.43 Tolerance mm : 40.25 Rated speed rpm : 307 guide sleeve travel mm : 1.83 Tolerance mm : 40.25 Rated speed rpm : 307 guide sleeve travel mm : 1.83 Tolerance mm : 40.25 Rated speed rpm : 357 guide sleeve travel mm : 2.46	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.50 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1475 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50
Rated speed rpm : 300 guide sleeve travel mm : 1.78 Tolerance mm : 40.25 Rated speed rpm : 1354 guide sleeve travel mm : 10.13 Tolerance mm : 40.25 Rated speed rpm : 891 guide sleeve travel mm : 6.43 Tolerance mm : 40.25 Rated speed rpm : 307 guide sleeve travel mm : 1.83 Tolerance mm : 40.25 Rated speed rpm : 307 guide sleeve travel mm : 1.83 Tolerance mm : 40.25 Rated speed rpm : 357 guide sleeve travel mm : 2.46	cm3/1000s. : 7.5 CONTROL LEVER control lever position degree : 120.0 tolerance degree : + 4.0 RATED SPEED rack travel mm : 12.50 Rated speed rpm : 1345 Tolerance 1/min : + 5 rack travel mm : 4.00 Rated speed rpm : 1475 Tolerance 1/min : + 15 rack travel mm : 0.50 Tolerance mm : + 0.50

		l Processino ADo . 700
		+ Pressur⊕ hPa : 300 + rack travel mm : 12.10
control lever		Tolerance non : +- 0.15
position degre	ee : 77.0	+
tolerance deg	ree : + 4.0	+ Pressure hPa : 180 + rack travel mm : 9.60
		rack travel mm : 9.60 Tolerance mm : +- 0.05
Testing:		Tolerance mm : +- 0.05
Rated speed rr	om : 300	
	n : 6.80	START CUT-OUT
Tolerance mm	: + 0.10	+
		Rated speed rpm : > 190 Rated speed rpm : < 240
Rated speed rp	om : 200	+ Rated speed rpm : < 240
Ant	0.50	
CRT mm min.	: > 8.50	+ Check
		+ speed 1/min : > 170 + Check
TORQUE CONTROL		= T thetk
TONGOE CONTROL	•	T Speed Millin 250
Rated speed rp	om : 1300	1
rack travel ma	13.50 : +- 0.05	+ FUEL DELIVERY CHARACTERISTICS
Tolerance mm	: +- 0.05	†
		+ Aneroid pressure
Rated speed rp	om : 800	hPa : 900 Rated speed rpm : 800
rack travel mm	12.75	Rated speed rpm : 800
Tolerance mm	: + 0.10	+ Del. quantity + cm3/1000 strokes : 126.0
Pated speed or	om : 500	+ Tolerance
rack travel m	n : 11.50	cm3/1000 strokes : + 2.0
Tolerance mm	: +- 0.10	Check tolerance
TOCET GITCE TIME	0.10	cm3/1000s. : +- 5.0
Rated speed rp	m : 1000	Spreed
rack travel ma	13.10	Tolerance
rack travel mm Tolerance mm	: + 0.15	+ cm3/1000 strokes : 6.0
		+ Check tolerance
Rated speed rp	m : 700	+ cm3/1000s. : 9.0
rack travel mm	12.50 + 0.15	+
Tolerance mm	: +- 0.15	+ Aneroid pressure
		+ hPa : 900
ANEDATA /AL TITL	INE	Rated speed rpm : 500
ANEROID/ALTITU COMPENSATOR TE		+ Del. quantity + cm3/1000 strokes : 109.0
COMPENSATOR TE	.51	Tolerance
		+ cm3/1000 strokes : +- 2.0
SETTING		- Check tolerance
		+ cm3/1000s. : + 5.0
Rated speed rp		†
Pressure hPa	: 900	+ Aneroid pressure
rack travel mm		+ hPa : -
Tolerance mm	: +- 0.05	Rated speed rpm : 500
MEACHDEMENT		+ Del. quantity + cm3/1000 strokes : 60.0
MEASUREMENT		+ cm3/1000 strokes : 60.0 + Tolerance
Pressure hPa		= cm3/1000 strokes : + 1.0
Rated speed rp	m : 1300	Check tolerance
rack travel mm		+ cm3/1000s. : + 3.0
Tolerance mm		+
Rated speed rp	m : 1300	+ BREAKAWAY

Rack travel in mm: 12.50
Rated speed rpm: 1345
Tolerance 1/min: +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.00
Tolerance mm : + 1.00
Del. quantity
cm3/1000 strokes : 85.0
Tolerance
cm3/1000 strokes : + 7.0
Check tolerance
cm3/1000s. : + 10.0

LOW IDLE

Rated speed rpm : 300 rack travel mm : 6.80 Tolerance mm : +- 0.20 Del. quantity 22.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance 5.5 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 24.04.96 Edition : ISO 4113 Test oil

Combination No. : 0 403 446 249

Injection pump

Pump designation : PES6MW100/720RS1197

EP type number : 0 413 406 185

Governor

Governer design. : RQV325...1350MW109K

Governer no. : 0 420 083 997

Cust. part No.

Customer-spec. information Customer : IVECO-FIAT

: 8060.45,6000 Motor

Power KW : 169.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar : +- 1.5 Tolerance bar

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : +- 1.0

: 4.05 Prestroke mm : + 0.05Tolerance mm Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : \leftarrow 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: + 0.50Tolerance

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1350

Rack travel in mm: 14.05 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 102.0

Tolerance cm3/1000 strokes : + 1.0

Check tolerance

: +- 3.0 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance		+ Tolerance mm : +- 0.50
cm3/1000s.	: 6.0	GUIDE SLEEVE POSITION
Rated speed rpm Rack travel in mm		Rated speed rpm : 1475
Tolerance mm Del. quantity	: + 0.20	Rack travel in mm: 13.00 Tolerance mm: +- 2.00
cm3/1000 strokes Tolerance		
cm3/1000 strokes Check tolerance		FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000S. Spreed Tolerance	: +- 4.5	Rated speed rpm : 1350 Aneroid pressure hPa : 850
cm3/1000 strokes Check tolerance	: 3.5	Del. quantity cm3/1000 strokes : 102.0
cm3/1000s.	: 5.5	Tolerance cm3/1000 strokes : +- 1.0
(B) SETTING OF IN	NJECTION PUMP	Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance
GUIDE SLEEVE TRAV	/EL	- cm3/1000 strokes : 3.5 Check tolerance - cm3/1000s. : 6.0
Rated speed rpm guide sleeve		+ CMS/10003. : 0.0
travel mm Tolerance mm	: 1.90 : +- 0.25	CONTROL LEVER
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1411 : 10.31 : + 0.25	control lever position degree : 120.0 tolerance degree : + 4.0
Rated speed rpm	: 832	RATED SPEED
guide sleeve travel mm Tolerance mm	: 5.05 : +- 0.25	rack travel mm : 13.00 Rated speed rpm : 1440 Tolerance 1/min : +- 5
Rated speed rpm guide sleeve	: 346	rack travel mm : 4.00 Rated speed rpm : 1550
travel mm Tolerance mm	: 2.27 : + 0.25	Tolerance 1/min : + 15
Rated speed rpm guide sleeve	: 396	+ rack travel mm : 0.50 + Tolerance mm : + 0.50 + Rated speed rpm : 1650
travel mm Tolerance mm	: 3.13 : +- 0.25	
Rated speed rpm guide sleeve	: 380	LOW IDLE
travel mm Tolerance mm	: 3.01 : + 0.25	control lever
Rated speed rpm guide sleeve	: 1640	+ position degree : 82.0 + tolerance degree : +- 4.0
travel mm	: 13.50	Testing:

START CUT-OUT		‡	Rack travel in mm Rated speed rpm Tolerance 1/min	: 1440
Pressure hPa rack travel mm Tolerance mm	: 350 : 12.35 : + 0.05	‡	BREAKAWAY	47.00
Tolerance mm	: +- 0.15	+	cm3/1000s.	: +- 3.0
Pressure hPa rack travel mm	: 550 : 13.45	Ī	cm3/1000 strokes Check tolerance	: +- 1.0
Rated speed rpm	: 500	<u> </u>	Del. quantity cm3/1000 strokes Tolerance	: 76.5
Rated speed rpm rack travel mm Tolerance mm	500 11.40 + 0.05	-	Aneroid pressure hPa Rated speed rpm	: - : 500
MEASUREMENT Pressure hPa	• -	 	Check tolerance cm3/1000s.	: +- 4.0
rask travel mm Tolerance mm	: 13.50 : + 0.10	‡	cm3/1000 strokes Tolerance cm3/1000 strokes	
Rated speed rpm Pressure hPa	: 850	‡	hPa Rated speed rpm Del. quantity	
SETTING		+	Aneroid pressure	
ANEROID/ALTITUDE COMPENSATOR TEST		‡	cm3/1000 strokes Check tolerance cm3/1000s.	: +- 1.5 : +- 4.0
		 ‡	cm3/1000 strokes Tolerance	
Rated speed rpm rack travel mm Tolerance mm	: 13.40	+++++++++++++++++++++++++++++++++++++	hPa Rated speed rpm Del. quantity	: 850 : 1000
rack travel mm Tolerance mm	: 13.35	1	cm3/1000S. Aneroid pressure	: 7.0
Tolerance mm Rated speed rpm		‡	Tolerance cm3/1000 strokes Check tolerance	: 5.0
Rated speed rpm rack travel mm	: 13.70	‡	Check tolerance cm3/1000s. Spreed	: +- 4.0
rack travel mm Tolerance mm	: 14.05	+	Tolerance cm3/1000 strokes	
TORQUE CONTROL Rated speed rpm	: 1350	‡	Rated speed rpm Del. quantity cm3/1000 strokes	
***************************************		‡	Aneroid pressure hPa	: 850
Rated speed rpm CRT mm min.	: > 10.00	Ī	FUEL DELIVERY CHA	ARACTERISTICS
Tolerance mm	: +- 0.10	+	speed 1/min	: > 275
Rated speed rpm rack travel mm		‡	Rated speed rpm Check	: > 265

STARTING FUEL DELIVERY

100 Rated speed rpm

WARM-START DELIVERY

100 Rated speed rpm

Del. quantity

65.0 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : +- 13.0

COLD-START DELIVERY

100 Rated speed rpm

Del. quantity

cm3/1000 strokes : 105.0

Tolerance

cm3/1000 strokes : +-8.0

Check tolerance

cm3/1000s. : + 10.0

LOW IDLE

Rated speed rpm 330 8.20 rack travel mm 0.20 Tolerance mm

Del. quantity 27.0 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : +-2.0 Check tolerance

4.5 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance cm3/1000s. 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Fdition : 22,04,96 : ISO 4113 Test oil

Combination No. : 0 403 476 054

Injection pump

Pump designation : PES6MW100/720RS1144 EP type number : 0 413 406 138

Governor

Governer design. : RSV350...1200MW0A316

: -7

: 0 420 085 092 Governer no.

Cust. part No. : 0150747302

Customer-spec. information Customer : MB-NFZ : 0M366A Motor Power KW : 115.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar : + 1.5 Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x Length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : +- 1.0

Prestroke mm 3.75 Tolerance mm : +- 0.05 Check tolerance mm : +- 0.10

Rack travel in mm : 10.50 : +- 1.50 Tolerance mm

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 12.05 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 81.5

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : + 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

	1		
Check tolerance cm3/1000s. : 6.0	‡	control lever position degree tolerance degree	
Rated speed rpm : 350	1	RATED SPEED	
Rack travel in mm: 8.60 Tolerance mm: + 0.30 Del. quantity cm3/1000 strokes: 10.0	+++++++++++++++++++++++++++++++++++++++	rack travel mm Tolerance mm Rated speed rpm	: 1.00 : ← 0.70 : 1450
Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5	+	rack travel mm Rated speed rpm	: 4.00 : 1340
Spreed Toterance	Ī	rack travel mm Rated speed rpm	: 11.00 : 1248
cm3/1000 strokes : 3.5 Check tólerance	1	Tolerance 1/min	: +- 8
cm3/1000s. : 5.5	1	ASSEMBLY GOVERNOR	SETTING
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	+	Rated speed rpm rack travel mm	: 1240 : 11.00
	-	Rated speed rpm Tolerance 1/min rack travel mm	: 1289 : + 4 : 4.00
GUIDE SLEEVE POSITION	+	Dated aread nam	: 1241
Rated speed rpm : 800	Ī	Rated speed rpm rack travel mm	: 1241 : 11.00
Rack travel in mm : 0.65 Tolerance mm : +- 0.35	+	Rated speed rpm Tolerance 1/min rack travel mm	: 1290 : + 4 : 4.00
governor spring pre~tension click setting x : 3.00	† + +	Rated speed rpm rack travel mm	: 1242 : 11.00
FULL LOAD DELIVERY AT FULL LOAD Rated speed rpm : 1200	STOP	Rated speed rpm Tolerance 1/min rack travel mm	: 1291 : + 4 : 4.00
Aneroid pressure hPa : - Del. quantity	+	Rated speed rpm rack travel mm	: 1243 : 11.00
cm3/1000 strokes : 81.5 Tolerance cm3/1000 strokes : +- 1.0	1	Rated speed rpm Tolerance î/min rack travel mm	: 1292 : +- 4 : 4.00
Check tolerance cm3/1000s. : +- 3.0 Spreed	‡	Rated speed rpm rack travel mm	: 1244 : 11.00
Tolerance cm3/1000 strokes : 3.5 Check tolerance	‡	Rated speed rpm Tolerance 1/min	: 1293 : +- 4
cm3/1000s. : 6.0	†	rack travel mm	: 4.00 : 1245
CONTROL LEVER	<u> </u>	Rated speed rpm rack travel mm	: 11.00
CONTINUE METERS	‡	Rated speed rpm Tolerance 1/min	: 1294 : +- 4

+- - >	350 8.60 0.30 2.00 485 30 100 19.00	
+- - >	8.60 0.30 2.00 485 30 100 19.00	
>	2.00 485 30 100 19.00	
>	485 30 100 19.00 200 12.05	
>	30 100 19.00 200 12.05	
>	19.00 200 12.05	
1	200 12.05	
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TER	ISTICS	·····
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	4.0	
	5.0	
	1 ← CTER	+ 0.10 TERISTICS 750 76.5 + 1.5 + 4.0

Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 20.00 : + 1.00 : 83.0 : + 5.0 : + 8.0
LOW IDLE	
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 350 : 8.60 : + 0.30 : 10.0 : + 2.0 : + 4.5
Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 3.5 : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22.04.96 Edition Test oil : ISO 4113

Combination No. : 9 400 083 452

Injection pump

Pump designation : PES6A100b320/3RS2691

: -2

: 9 410 230 028 EP type number

Governor

Governer design. : RQV350...1250AB1225R

: 9 420 080 224 Governer no.

Cust. part No.

Customer-spec. information Customer : CUMMINS Motor : 6 C 8.3L : 123.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C Tolerance °C

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 2.85 : +- 0.05 Tolerance mm

Check

: + - 0.10tolerance mm

Rack travel in mm: 10.50 : +- 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

Beginning of delivery differende

and maximum rack

10.50 travel : +- 1.50 Tolerance mm Difference ° CS 3.50

BASIC SETTING

1250 Rated speed rpm

Rack travel in mm : 11.25 Tolerance mm : **←** 0.05

Del. quantity

cm3/1000 strokes :

104.5

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. 3.0 : +--

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	+ Aneroid pressure
Spreed	+ hPa : -
Tolerance cm3/1000 strokes : 3.5	+ Del. quantity + cm3/1000 strokes : 104.5
	+ Tolerance
Check tolerance cm3/1000s. : 8.0	+ cm3/1000 strokes : + 1.0 + Check tolerance
	+ cm3/1000s. : + 3.0
Del. quantity cm3/1000 strokes : 16.0	+ Spreed + Tolerance
Tolerance	+ cm3/1000 strokes : 3.5
cm3/1000 strokes : +- 2.0 Check tolerance	+ Check tolerance + cm3/1000s. : 8.0
cm3/1000s. : +- 4.5	+ 5
Spreed Tolerance	<u> </u>
cm3/1000 strokes : 5.5	CONTROL LEVER
Check tolerance cm3/1000s. : 9.0	t control lever
	+ position degree : 117.0
(B) SETTING OF INJECTION PUMP	tolerance degree : + 4.0
WITH GOVERNOR	RATED SPEED
	+ + rack travel mm : 10.20
GUIDE SLEEVE TRAVEL	Rated speed rpm : 1295
Rated speed rpm : 1265	+ Tolerance 1/min : +- 5
guide sleeve	rack travel mm : 4.00
travel mm : 8.50 Tolerance mm : +- 0.10	+ Rated speed rpm : 1405 + Tolerance 1/min : +- 15
	+
Rated speed rpm : 350 guide sleeve	+ rack travel mm : 0.50 + Tolerance mm : + 0.50
travel mm : 2.05	Rated speed rpm : 1500
Tolerance mm : +- 0.25	‡
Rated speed rpm : 900	LOS TOLE
guide sleeve travel mm : 5.75	+ LOW IDLE
Tolerance mm : + 0.25	
Rated speed rpm : 500	control lever position degree : 70.0
guide sleeve	tolerance degree : +- 4.0
travel mm : 3.95 Tolerance mm : + 0.25	Testing:
	+
GUIDE SLEEVE POSITION	Rated speed rpm : 350 rack travel mm : 5.40 Tolerance mm : +- 0.10
Poted enord non 1250	Tolerance mm : +- 0.10
Rated speed rpm : 1250	Rated speed rpm : 100
Rack travel in mm: 16.50 - Tolerance mm: + 1.30 -	+ - CRT mm min. :> 9.80
	+
FULL LOAD DELIVERY AT FULL LOAD STOP	+ Rated speed rpm : 425
	TOPOUR CONTROL
Rated speed rpm : 1250	TORQUE CONTROL
	1

Rated speed rpm rack travel mm	: 1250 : 11.25
Tolerance mm	: +- 0.05
Rated speed rpm	: 500
rack travel mm Tolerance mm	: 11.85 : + 0.05
Rated speed rpm rack travel mm	: 600 : 11.60
Tolerance mm	: + 0.10
Rated speed rpm	: 750
rack travel mm Tolerance mm	: 11.45 : +- 0.15
START CUT-OUT	
Rated speed rpm	: > 100
Rated speed rpm	: > 100 : < 270
Check	
speed 1/min Check	: > 80
speed 1/min	: < 290
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure	
Rated speed rpm	500
Del. quantity cm3/1000 strokes	: 102.0
Tolerance	
cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s.	: +- 4.0
Aneroid pressure	
hPa Rated speed rpm	600
Del. quantity cm3/1000 strokes	: 105.0
Tolerance	
cm3/1000 strokes Check tolerance	: - 2.0
cm3/1000s.	: +- 4.0
BREAKAWAY	
Rack travel in mm	
Rated speed rpm	: 1295
Tolerance 1/min	· +- 5

STARTING FUEL DELIVERY

Rated speed rpm rack travel mm Tolerance mm	: 100 : 20.00 : + 1.00
Del. quantity cm3/1000 strokes Tolerance	: 171.0
cm3/1000 strokes	: +- 15.0
Check tolerance cm3/1000s.	: + 20.0

LOW IDLE

Del. quantity		
cm3/1000 strokes	:	16.0
Tolerance		
cm3/1000 strokes	: +-	2.0
Check tolerance		
cm3/1000s.	: +-	4.5
Spreed		
Tolerance		
cm3/1000 strokes	:	5.5
Check tolerance		
cm3/1000s.	:	9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.04.96 Test oil : ISO 4113

Combination No. : 9 400 083 463

Injection pump

Pump designation : PES6A95D12ORS2834 EP type number : 9 400 084 032

Governor

Governer design. : RSV400...1100A8C2259

: -1R

Governer no. : 9 420 083 261

Cust. part No. : 3355079

Customer—spec. information
Customer : CUMMINS
Motor : 6BT 5.9 L
Power KW : 108.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : - 1.0

Prestroke mm : 2.80
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance @m : +- 1.50

Firing ofder : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Beginning of delivery differende

and maximum rack

travel : 10.50
Tolerance mm : + 1.50
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 10.95 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 85.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 3.0

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	T
Spreed	+ control lever
Tolerance	+ position degree : 101.0
cm3/1000 strokes : 3.5	+ tolerance degree : +- 4.0
	+
Check tolerance	+ RATED SPEED
cm3/1000s. : 8.0	}
	+ rack travel mm : 9.90
Del. quantity	Rated speed rpm : 1145
cm3/1000 strokes : 11.0	+ Tolerance 1/min : +- 5
Tolerance	1 Total and 17 mill
cm3/1000 strokes : +- 2.0	rack travel mm : 4.00
Check tolerance	+ Rated speed rpm : 1190
cm3/1000s, ; + 4.5	Tolerance 1/min : + 15
	T local direction in the last of the last
Spreed	T rack travel mm : 0.85
Tolerance cm3/1000 strokes : 5.5	
	+ Tolerance mm : +- 0.55
Check tolerance	Rated speed rpm : 1350
cm3/1000s. : 9.0	†
	†
(B) SETTING OF INJECTION PUMP	+ LOW IDLE
WITH GOVERNOR	+
	†
	+ control lever
	+ position degree : 71.0
GUIDE SLEEVE POSITION	+ tolerance degree : +- 4.0
	+
Rated speed rpm : 800	Setting point w/out bumper spring
	+
Rack travel in mm: 0.65	Rated speed rpm : 400 rack travel mm : 4.60
Tolerance mm : + 0.35	+ rack travel mm : 4.60
	+
governor spring	+ Testing:
pre-tension	
click setting x : 4.50	Rated speed rpm : 400
teron outering A	rack travel mm : 5.10
	+ Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Total and many
IOST TOWN ASSISTED AT LOST TOWN OLD!	rack travel mm : 2.00
Rated speed rpm : 1100	Rated speed rpm : 520
	+ Tolerance 1/min : + 30
Aneroid pressure hPa : -	T roterance min , T 30
	I Pated speed now . 100
Del. quantity	Rated speed rpm : 100
cm3/1000 strokes : 85.0	T COT mm min . > 10.00
Tolerance	+ CRT mm min. : > 19.00
cm3/1000 strokes : + 1.0	†
Check tolerance cm3/1000s. : +- 3.0	
cm3/1000S. : +- 3.0	+ TORQUE CONTROL
Spreed	+
Tolerance	+ Rated speed rpm : 1100
cm3/1000 strokes : 3.5	Rated speed rpm : 1100 rack travel mm : 10.95 Tolerance mm : +- 0.05
Check tolerance	+ Tolerance mm : +- 0.05
Check tolerance cm3/1000s. 8.0	+
	Rated speed rpm : 700 rack travel mm : 11.55 Tolerance mm : + 0.05
	+ rack travel mm : 11.55
	+ Tolerance mm : +- 0.05
CONTROL LEVER	+
	Rated speed rpm : 900 rack travel mm : 11.25
	+ rack travel mm : 11.25
	t and a man a min a contract the contract that the contract the contra

Tolerance mm	: +- 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: - : 700
Del. quantity cm3/1000 strokes	: 93.5
Tolerance cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s.	: +- 4.0
Aneroid pressure hPa Rated speed rpm Del. quantity	900
cm3/1000 strokes Tolerance	: 86.0
cm3/1000 strokes Check tolerance	: + 2.0
cm3/1000s.	; +- 4.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 9.90 : 1145 : +- 5
STARTING FUEL DEL	
Rated speed rpm rack travel mm Tolerance mm Del. quantity	: 100 : 20.00 : +- 1.00
cm3/1000 strokes Tolerance	
cm3/1000 strokes Check tolerance	: +- 10.0
cm3/1000s.	;
LOW IDLE	
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 11.0 : +- 2.0

Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000s. : 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.04.96 Test oil : ISO 4113

Combination No. : 9 400 085 223

Injection pump

Pump designation : PES3A80D32ORS1281 EP type number : 9 400 083 054

Governor

Governer design. : RSV350...1400A2C2129

: -3R

Governer no. : 9 420 083 265

Cust. part No. :

Customer-spec. information Customer : MWM Motor : D 229-3

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.25
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1- 2- 3

Phasing : 0-120-240

Beginning of delivery differende

and maximum rack

travel : 10.50
Tolerance mm : + 1.50
Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 9.95
Tolerance mm: + 0.05

Del. quantity

cm3/1000 strokes : 55.0

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. : +- 2.0

Tolerance cm3/1000 strokes : 2.5	DATES COFFE
cms/ rodu strokes : 2.3	RATED SPEED
Check tolerance	+ rack travel mm : 8.90
cm3/1000s. : 4.0	Rated speed rpm : 1445
	+ Tolerance 1/min : +- 5
Del. quantity	†
cm3/1000 strokes : 8.0 Tolerance	+ rack travel mm : 4.00 + Rated speed rpm : 1510
cm3/1000 strokes : +- 1.5	+ Rated speed rpm : 1510 + Tolerance 1/min : + 15
Check tolerance	Total drice 17 mills 1 13
cm3/1000s. : +- 3.5	rack travel mm : 0.85
Spreed	+ Tolerance mm : +- 0.55
Tolerance	+ Rated speed rpm : 1700
cm3/1000 strokes : 4.0	†
Check tolerance cm3/1000s. : 6.0	I
(10) (00) (10)	LOW IDLE
	+
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	+ control lever
	+ position degree : 78.0
	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	+ Setting point w/out bumper spring
	+
Rated speed rpm : 800	Rated speed rpm : 350
	+ rack travel mm : 6.50
Rack travel in mm: 0.65	† Tanking.
Tolerance mm : +- 0.35	† Testing:
governor spring	Rated speed rpm : 350
pre-tension	+ rack travel mm : 7.00
click setting x : 5.50	+ Tolerance mm : + 0.10
	+
THE LOAD AND THE THE STATE OF STATE	rack travel mm : 2.00
FULL LOAD DELIVERY AT FULL LOAD STOP	+ Rated speed rpm : 670 + Tolerance 1/min : + 30
Rated speed rpm : 1400	T Totalice Trilling . The So
Aneroid pressure	+ Rated speed rpm : 100
hPa : -	+
Del. quantity	+ CRT mm min. : > 19.00
cm3/1000 strokes : 55.0	+
Tolerance cm3/1000 strokes : +- 0.5	TORQUE CONTROL
Check tolerance	T TORQUE CONTROL
cm3/1000s. : +- 2.0	Rated speed rpm : 1400
Spreed	+ rack travel mm : 9.95
Tolerance	+ Tolerance mm : +- 0.05
cm3/1000 strokes : 2.5	+
Check tolerance	Rated speed rpm : 500 rack travel mm : 10.75
cm3/1000s. : 4.0	rack travel mm : 10.75 Tolerance mm : + 0.05
	TO COT GITTE ONE
	+ Rated speed rpm : 700
CONTROL LEVER	+ rack travel mm : 10.70
	+ Tolerance mm : + 0.10
control lever	† Dated aread area (4400
position degree : 112.0 tolerance degree : +- 4.0	+ Rated speed rpm : 1100 + rack travel mm : 10.35
tolerance degree : +- 4.0	T TOOK CLOVE THAIL . 10.33

K05

Tolerance mm	: +- 0.15
FUEL DELIVERY CHAP	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: - : 500
cm3/1000 strokes Tolerance cm3/1000 strokes	: 49.5 : + 1.5
Check tolerance cm3/1000s.	: +- 3.0
Aneroid pressure hPa Rated speed rpm Del. quantity	: - : 700
cm3/1000 strokes Tolerance cm3/1000 strokes	: 52.0 : ← 1.5
Check tolerance cm3/1000s.	: + 3.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 1100 : 56.0 : + 1.5 : + 3.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 8.90 : 1445 : + 5
STARTING FUEL DELI	VERY
Rated speed rpm rack travel mm Tolerance mm	: 100 : 20.00 : +- 1.00
LOW IDLE	

vel. quantity		
cm3/1000 strokes	:	8.0
Tolerance		
cm3/1000 strokes	: +-	1.5
Check tolerance		
cm3/1000s.	: +-	3.5
Spreed		
Tolerance		
cm3/1000 strokes	:	4.0
Check tolerance		
cm3/1000s.	:	6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22,04,96 Edition : ISO 4113 Test oil

Combination No. : 9 400 085 240

Injection pump

Pump designation : PES4A90D320RS2702

EP type number : 9 400 083 095

Governor

Governer design. : RSV350...1150A2C2129

: -4R

: 9 420 083 268 Governer no.

Cust. part No.

Customer-spec. information : MWM Customer Motor

: D 229-4 : 75.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 : + 1.5 Tolerance bar

: 1 680 750 003 Test lines

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

2.70 Prestroke mm Tolerance mm : +- 0.05 Check

: + 0.10tolerance mm

Rack travel in mm : 10.50 Tolerance mm : ← 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Beginning of delivery differende

and maximum rack

travel 10.50 Tolerance mm : +- 1.50 Difference ° CS 3.50

BASIC SETTING

Rated speed rpm 1150

Rack travel in mm : 9.05 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 64.0

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

: +- 2.5 cm3/1000s.

Tolerance +	
cm3/1000 strokes : 3.0 +	control lever
	position degree : 99.0
Check tolerance	tolerance degree : +- 4.0
cm3/1000s. : 7.0	total dilect degree The
T	RATED SPEED
Dal minutati	RATED SPEED
Del. quantity +	0.00
cm3/1000 strokes : 12.0 +	rack travel mm : 8.00
Tolerance	Rated speed rpm : 1195
cm3/1000 strokes : +- 2.0 +	Tolerance 1/min : + 5
Check tolerance +	
cm3/1000s. : + 4.0 +	rack travel mm : 4.00
Spreed	Rated speed rpm : 1245
Tolerance	Tolerance 1/min : +- 15
cm3/1000 strokes : 4.5	rocor arros traitis
Check tolerance	rack travel mm : 0.85
cm3/1000s. : 7.0 +	
†	Rated speed rpm : 1400
+	
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	
+	LOW IDLE
+	
GUIDE SLEEVE POSITION +	control lever
1	position degree : 74.0
Rated speed rpm : 800	tolerance degree : + 4.0
rated speed this : one	toterance degree : + 4.0
7	and all large
Rack travel in mm: 0.65	control lever
Tolerance mm : +- 0.35	position degree : 24.0
+	tolerance degree : + 4.0
governor spring +	
pre-tension +	Setting point w/out bumper spring
click setting x : 4.75	
	Rated speed rpm : 350
	rack travel mm : 5.20
FULL LOAD DELIVERY AT FULL LOAD STOP	1401/ 51470€ 1887 1 3160
TOLE CONDUCELVENT AT TOLL LOAD STOP	Testing:
Dated aread non 1150	restring.
Rated speed rpm : 1150 +	750
Aneroid pressure +	Rated speed rpm : 350
hPa : - +	rack travel mm : 5.70
Del. quantity +	Tolerance mm : +- 0.10
cm3/1000 strokes : 64.0 +	
Tolerance +	rack travel mm : 2.00
cm3/1000 strokes : +- 0.5	Rated speed rpm : 590
Check tolerance	Tolerance 1/min : + 30
cm3/1000s. : +- 2.5 +	
Spreed	Rated speed rpm : 100
Tolerance	nated opeca (pill 1 100
	CRT mm min. :> 19.00
cm3/1000 strokes : 3.0	CKT MM MITT. : 7 17.00
Check tolerance +	
cm3/1000s. : 7.0 +	
+	TORQUE CONTROL
+	
	Rated speed rpm : 1150
CONTROL LEVER +	rack travel mm : 9.05
	Tolerance mm : + 0.05
control lever	
	Rated speed rpm : 500
	rack travel mm : 10.15
tolerance degree : +- 4.0 +	rack cravec mm : (U.()

K08

Tolerance mm	: - 0.05
Rated speed rpm rack travel mm Tolerance mm	: 800 : 9.80 : +- 0.10
Rated speed rom rack travel mm Tolerance mm	: 1000 : 9.25 : +- 0.15
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
hPa	: - : 500
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes	: 62.0
Tolerance cm3/1000 strokes	: + 1.5
Check tolerance	· T 1.2
cm3/1000s.	: +- 3.5
Aneroid pressure	
hPa	: -
Rated speed rpm	: 800
Del. quantity cm3/1000 strokes	: 67.0
Tolerance	
cm3/1000 strokes	: + 1.5
Check tolerance cm3/1000s.	: ← 3.5
BREAKAWAY	
Rack travel in mm	. 8.00
Rack travel in mm Rated speed rpm Tolerance 1/min	: 1195
Tolerance 1/min	: +- 5
STARTING FUEL DEL:	TVEDY
Rated speed rpm	: 100
rack travel mm Tolerance mm	: + 1.00
LOW IDLE	
Del. quantity cm3/1000 strokes	: 12.0

Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. : 7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.04.96 Test oil : ISO 4113

Combination No. : 9 400 085 241

Injection pump

Pump designation : PES3A90D32ORS2703 EP type number : 9 400 083 096

Governor

Governer design. : RSV350...1150A2C2129

: -4R

Governer no. : 9 420 083 268

Cust. part No. :

Customer-spec. information
Customer : MWM
Motor : D 229-3
Power KW : 42.7

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.70
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1- 2- 3

Phasing : 0-120-240

Beginning of delivery differende

and maximum rack

travel : 10.50
Tolerance mm : + 1.50
Difference ° CS : 3.50

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 8.55
Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 58.5

Tolerance cm3/1000 strokes : + 0.5

Check tolerance cm3/1000s. ; +- 2.5

Tolerance +	
cm3/1000 strokes : 3.0 +	RATED SPEED
+	7.50
Check tolerance	rack travel mm : 7.50
cm3/1000s. : 5.0 +	Rated speed rpm : 1195
†	Tolerance 1/min : + 5
Del. quantity	
cm3/1000 strokes : 13.0	rack travel mm : 4.00
Tolerance	Rated speed rpm : 1235
cm3/1000 strokes : + 2.0	Tolerance 1/min : +- 15
Check tolerance + 4.0 +	neels described and a COST
	rack travel mm : 0.85 Tolerance mm : + 0.55
Spreed	
Tolerance cm3/1000 strokes : 2.5	Rated speed rpm : 1400
Check tolerance	
cm3/1000s. : 4.5	LOW IDLE
Ţ	FOM TOPE
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	control lever
WITH GOVERNOR	position degree : 72.0
\mathbf{I}	tolerance degree : +- 4.0
	total area acgree 4.6
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
	occoming be me mean admited to be mig
Rated speed rpm : 800	Rated speed rpm : 350
+	rack travel mm : 5.10
Rack travel in mm: 0.65	
Tolerance mm : + 0.35	Testing:
+	
governor spring +	Rated speed rpm : 350
pre-tension +	rack travel mm : 5.60
click setting x : 4.25	Tolerance mm : + 0.10
+	
	rack travel mm : 2.00
FULL LOAD DELIVERY AT FULL LOAD STOP +	Rated speed rpm : 580
+	Tolerance 1/min : + 30
Rated speed rpm : 1150 +	
Aneroid pressure	Rated speed rpm : 100
hPa : - +	
Del. quantity +	CRT mm min. : > 19.00
cm3/1000 strokes : 58.5	
Tolerance	
cm3/1000 strokes : +- 0.5	TORQUE CONTROL
Check tolerance	Detect aread many and AAFO
cm3/1000s. : +- 2.5	Rated speed rpm : 1150
Spreed	rack travel mm : 8.55
Tolerance	Tolerance mm : + 0.05
cm3/1000 strokes : 3.0	Dated around non . FOO
Check tolerance	Rated speed rpm : 500
cm3/1000s. : 5.0 +	rack travel mm : 9.45 Tolerance mm : +- 0.05
•	coverance mm : T= U.U)
†	1000101100 1011
CONTROL EVER	Rated speed rpm : 800
CONTROL LEVER	Rated speed rpm : 800 rack travel mm : 9.00
+	Rated speed rpm : 800
control lever	Rated speed rpm : 800 rack travel mm : 9.00
+	Rated speed rpm : 800 rack travel mm : 9.00

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 55.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : + 3.5

Aneroid pressure

hPa : -Rated speed rpm : 800

Del. quantity

cm3/1000 strokes : 61.5

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.5

BREAKAWAY

Rack travel in mm : 7.50
Rated speed rpm : 1195
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00

LOW IDLE

Del. quantity

cm3/1000 strokes : 13.0

Tolerance

cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 2.5

Check tolerance

cm3/1000s. : 4.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.04.96 Test oil : ISO 4113

Combination No. : 9 400 085 261

Injection pump

Pump designation : PES6A80D320RS1271 EP type number : 9 400 083 058

Governor

Governer design. : RSV350...1250A0C2029

: -3R

Governer no. : 9 420 083 271

Cust. part No. :

Customer-spec. information

Customer : MWM

Motor : D 229-6

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.25
Tolerance mm : + 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Beginning of delivery differende

and maximum rack

travel : 10.50
Tolerance mm : + 1.50
Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 8.25
Tolerance mm: + 0.05

Del. quantity cm3/1000 strokes : 50.0

Tolerance cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. : +- 2.0

	
Spreed - Tolerance - cm3/1000 strokes : 2.5 -	control lever position degree : 106.0 tolerance degree : + 4.0
Check tolerance cm3/1000s. 4.0	RATED SPEED
Del. quantity - cm3/1000 strokes : 8.0 -	rack travel mm : 7.20 Rated speed rpm : 1295 Tolerance 1/min : + 5
Tolerance cm3/1000 strokes : +- 1.5	rack travel mm : 4.00
Check tolerance cm3/1000s. : + 3.5	Rated speed rpm : 1335 Tolerance 1/min : +- 15
Spreed Tolerance cm3/1000 strokes : 4.0 - Check tolerance	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1450
cm3/1000s. : 6.0	The state of the s
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
- -	control lever
GUIDE SLEEVE POSITION -	position degree : 79.0 tolerance degree : +- 4.0
Rated speed rpm : 800	Setting point w/out bumper spring
Rack travel in mm: 0.65 Tolerance mm: + 0.35	Rated speed rpm : 350 rack travel mm : 5.50
governor spring pre-tension	Testing:
click setting x : 4.25	Rated speed rpm : 350 rack travel mm : 6.00 Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	
Rated speed rpm : 1250 Aneroid pressure hPa : -	rack travel mm : 2.00 Rated speed rpm : 510 Tolerance 1/min : +- 30
Del. quantity cm3/1000 strokes : 50.0	Rated speed rpm : 100
Tolerance cm3/1000 strokes : +- 0.5	CRT mm min. : > 19.00
Check tolerance cm3/1000s. : + 2.0	TORQUE CONTROL
Spreed Tolerance cm3/1000 strokes : 2.5	- Rated speed rpm : 1250 - rack travel mm : 8.25
Check tolerance cm3/1000s. : 4.0	Tolerance mm : + 0.05
	- Rated speed rpm : 500 - rack travel mm : 9.85 - Tolerance mm : + 0.05
CONTROL LEVER	- - Rated speed rpm : 800 - rack travel mm : 9.25

FHE	DEL	THERY	CHARAC	TERIST	CCC

Aneroid pressure

hPa : -Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 51.5

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : +- 3.0

Aneroid pressure

hPa : -Rated speed rpm : 800 Del. quantity

cm3/1000 strokes : 52.0

Tolerance

cm3/1000 strokes : + 1.5

Check tolerance cm3/1000s.

: +- 3.0

BREAKAWAY

Rack travel in mm : 7.20
Rated speed rpm : 1295
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00

LOW IDLE

Del. quantity cm3/1000 strokes : 8.0 Tolerance 1.5 cm3/1000 strokes : +-Check tolerance cm3/1000s. 3.5 Spreed Tolerance 4.0 cm3/1000 strokes : Check tolerance cm3/1000s. 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22.04.96 Edition : ISO 4113 Test oil

Combination No. : 9 400 085 268

Injection pump

Pump designation : PES4A90D320RS2702 EP type number : 9 400 083 095

Governor

Governer design. : RSV350...1150A2C2129

: -7R

: 9 420 083 273 Governer no.

Cust, part No.

Customer-spec. information : MWM Customer

: TD 229 EC-4 Motor

Power KW 66.2

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

: 1 419 992 198 Overflow valve

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

bar 173.5 1.5 Tolerance bar

Test lines : 1 680 750 003

Outside diameter : 6.0 x inside diameter: 2.0 x length mm 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 2.70 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-3-4-2

: 0-90-180-270 Phasing

Beginning of delivery differende

and maximum rack

travel 10.50 : + 1.50Tolerance mm Difference ° CS

BASIC SETTING

Rated speed rpm 1150

Rack travel in mm : 10.35 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 78.0

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s. : +--2.5

Tolerance cm3/1000 strokes : 3.0	RATED SPEED
Check tolerance cm3/1000s. : 7.0	rack travel mm : 9.30 Rated speed rpm : 1195 Tolerance 1/min : +- 5
Del. quantity cm3/1000 strokes : 13.0 Tolerance	rack travel mm : 4.00 Rated speed rpm : 1255
cm3/1000 strokes : + 2.0 + Check tolerance	Tolerance 1/min : + 15
cm3/1000s. : +- 4.0 Spreed Tolerance	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1400
cm3/1000 strokes : 4.5 Check tolerance	Naced Speed (pill 1 1400
cm3/1000s. : 7.0	LOW IDLE
Ţ	FOW INCE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 72.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 350 rack travel mm : 5.10
Rack travel in mm : 0.65 Tolerance mm : + 0.35	Testing:
governor spring pre-tension	Rated speed rpm : 350 rack travel mm : 5.60
click setting x : 4.30	Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 2.00 Rated speed rpm : 580
Rated speed rpm : 1150	Tolerance 1/min : +- 30
Aneroid pressure	Rated speed rpm : 100
Del. quantity cm3/1000 strokes : 78.0	CRT mm min. :> 19.00
cm3/1000 strokes : + 0.5 Check tolerance	TORQUE CONTROL
cm3/1000s. : + 2.5 + Spreed	Rated speed rpm : 1150 rack travel mm : 10.35
Tolerance + cm3/1000 strokes : 3.0 +	Tolerance mm : + 0.05
Check tolerance + cm3/1000s. : 7.0	Rated speed rpm : 500 rack travel mm : 10.85
	Tolerance mm : + 0.05
	Rated speed rpm : 700
CONTROL LEVER	rack travel mm : 10.60 Tolerance mm : + 0.10
control lever + position degree : 97.0 +	
tolerance degree : + 4.0	

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity cm3/1000 strokes : 71.0

Tolerance

cm3/1000 strokes : + 1.5

Check tolerance

cm3/1000s. : +- 3.5

Aneroid pressure

hPa : Rated speed rpm : 700

Del. quantity

cm3/1000 strokes : 72.5

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : + 3.5

BREAKAWAY

Rack travel in mm: 9.30
Rated speed rpm: 1195
Tolerance 1/min: + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00

LOW IDLE

Del. quantity

cm3/1000 strokes : 13.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : + 4.0

Spreed

Tolerance

cm3/1000 strokes : 4.5

Check tolerance

cm3/1000s. : 7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.04.96 Test oil : ISO 4113

Combination No. : 9 400 085 272

Injection pump

Pump designation : PES4A90D320RS2744 EP type number : 9 400 084 012

Governor

Governer design. : RSV350...1300A2C2215

: -2R

Governer no. : 9 420 083 275

Cust. part No. :

Customer—spec. information Customer : MWM

Motor : TD 229-4

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.75
Tolerance mm : + 0.05
Check

Rack travel in mm : 10.50
Tolerance mm : +- 1.50

Firing order : 1-3-4-2

: + 0.10

Phasing : 0-90-180-270

Beginning of delivery differende

and maximum rack

tolerance mm

travel : 10.50
Tolerance mm : + 1.50
Difference ° CS : 3.50

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 10.65 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 89.5

Tolerance cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. : +- 2.5

-		
Tolerance	7.0	DATES OFFE
cm3/1000 strokes :	3.0	RATED SPEED
Check tolerance	<u> </u>	rack travel mm : 9.60
cm3/1000s. :	5.0	Rated speed rpm : 1345
CIID7 10005)	Tolerance 1/min : +- 5
Del. quantity	13.0 + 2.0 + 4.0	Total diace tribing 1. 1. 3
cm3/1000 strokes :	13.0	rack travel mm : 4.00
Tolerance	1	Rated speed rpm : 1425
cm3/1000 strokes :	+ 2.0	Tolerance 1/min : +- 15
Check tolerance	1	Total arias frings
Check tolerance cm3/1000s. :	+ 4.0	rack travel mm : 0.85
Spreed	1	Tolerance mm : + 0.55
Tolerance	1	Rated speed rpm : 1600
cm3/1000 strokes :	2.5	
Check tolerance	1	
cm3/1000s. :	4.5	
	1	LOW IDLE
	+	
(B) SETTING OF INJE	CTION PUMP +	
WITH GOVERNOR	+	control lever
	+	position degree : 78.0
	ON TON	tolerance degree : + 4.0
GUIDE SLEEVE POSITION	ON	Setting point w/out bumper spring
Bakad assaul ass	†	Data damandama 750
Rated speed rpm :	800	Rated speed rpm : 350
Don't during the sum of	0.45	rack travel mm : 4.50
Rack travel in mm : Tolerance mm :		Tantings
ioterance imi :	T 0.55	Testing:
governor spring	I	Rated speed rpm : 350
pre-tension	I	rack travel mm : 5.00
click setting x :	5 75 I	rack travel mm : 5.00 Tolerance mm : +- 0.10
cerek secening x .	I	Total alice (Mil)
		rack travel mm : 2.00
FULL LOAD DELIVERY A	AT FULL LOAD STOP	Rated speed rpm : 570
	+	Tolerance 1/min : + 30
Rated speed rpm :	1300	
Aneroid pressure	+	Rated speed rpm : 100
hPa :	- 1	
Del. quantity	1	CRT mm min. : > 19.00
cm3/1000 strokes :	89.5	
Tolerance	+	
cm3/1000 strokes :	+ 0.5	TORQUE CONTROL
Check tolerance	+	
cm3/1000s. :	+ 2.5	Rated speed rpm : 1300
	T	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Spreed	Ţ	rack travel mm : 10.65
Spreed Tolerance	‡	
Spreed Tolerance cm3/1000 strokes :	‡	rack travel mm : 10.65 Tolerance mm : + 0.05
Spreed Tolerance cm3/1000 strokes : Check tolerance	3.0	rack travel mm : 10.65 Tolerance mm : + 0.05 Rated speed rpm : 500
Spreed Tolerance cm3/1000 strokes : Check tolerance	‡	rack travel mm : 10.65 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.25
Spreed Tolerance cm3/1000 strokes : Check tolerance	3.0	rack travel mm : 10.65 Tolerance mm : + 0.05 Rated speed rpm : 500
Spreed Tolerance cm3/1000 strokes : Check tolerance	3.0	rack travel mm : 10.65 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.25 Tolerance mm : + 0.05
Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. :	3.0	rack travel mm : 10.65 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.25 Tolerance mm : + 0.05
Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. :	3.0	rack travel mm : 10.65 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.25 Tolerance mm : + 0.05
Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : CONTROL LEVER	3.0	rack travel mm : 10.65 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.25
Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : CONTROL LEVER control lever	3.0	rack travel mm : 10.65 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.25 Tolerance mm : + 0.05 Rated speed rpm : 800 rack travel mm : 11.05 Tolerance mm : + 0.15
Spreed Tolerance cm3/1000 strokes : Check tolerance cm3/1000S. : CONTROL LEVER control lever position degree : tolerance degree :	3.0 5.0 109.0	rack travel mm : 10.65 Tolerance mm : + 0.05 Rated speed rpm : 500 rack travel mm : 11.25 Tolerance mm : + 0.05

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : Rated speed rpm : 500
Del. quantity

Del. quantity cm3/1000 strokes : 88.0

Tolerance

cm3/1000 strokes : +- 1.0 Check tolerance

Check tolerance

cm3/1000s. : +- 3.5

Aneroid pressure

hPa : -Rated speed rpm : 900

Del. quantity

cm3/1000 strokes : 90.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.5

BREAKAWAY

Rack travel in mm: 9.60
Rated speed rpm: 1345
Tolerance 1/min: + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : +- 1.00

LOW IDLE

Del. quantity

cm3/1000 strokes : 13.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 2.5

Check tolerance

cm3/1000s. : 4.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.04.96 Test oil : ISO 4113

Combination No. : 9 400 085 313

Injection pump

Pump designation : PES4A90D320RS2744 EP type number : 9 400 084 012

Governor

Governer design. : RSV350...1150A2C2129

: -8R

Governer no. : 9 420 083 277

Cust. part No. :

Gustomer-spec. information Customer : MWM

Motor : TD 229 EC-4

Power KW : 73.6

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. $^{\circ}$ C :

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.75
Tolerance mm : + 0.05

Check

tolerance mm : \leftarrow 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Beginning of delivery differende

and maximum rack

travel : 10.50
Tolerance mm : + 1.50
Difference ° CS : 3.50

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 10.55
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 87.0

Tolerance

cm3/1000 strokes : + 0.5

Check tolerance

cm3/1000s. : +- 2.5

Tolerance + cm3/1000 strokes : 3.0 +	RATED SPEED
tilis/ 1000 strokes : 3.0	RATED SPEED
Check tolerance	rack travel mm : 9.50
cm3/1000s. : 7.0 +	Rated speed rpm : 1195
+	Tolerance 1/min : +- 5
Del. quantity + cm3/1000 strokes : 13.0 +	anale denoted and 1 00
cm3/1000 strokes : 13.0	rack travel mm : 4.00 Rated speed rpm : 1275
cm3/1000 strokes : + 2.0	Tolerance 1/min : +- 15
Check tolerance	
cm3/1000s. : +- 4.0 +	rack travel mm : 0.85
Spreed	Tolerance mm : +- 0.55
Tolerance + cm3/1000 strokes : 4.5	Rated speed rpm : 1450
Check tolerance	
cm3/1000s. : 7.0	
+	LOW IDLE
(D) PETTYNG OF THIESTION DIMD	
(B) SETTING OF INJECTION PUMP +	control lever
WITH GOVERNOON	position degree : 77.0
+	tolerance degree : + 4.0
GUIDE SLEEVE POSITION +	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 350
1	rack travel mm : 4.90
Rack travel in mm: 0.65	
Tolerance mm : + 0.35	Testing:
governor spring	Rated speed rpm : 350
pre-tension +	rack travel mm : 5.40
click setting x : 5.50	Tolerance mm : + 0.10
+	
FILL LOAD DELTHERY AT FILL LOAD CTOR	rack travel mm : 2.00 Rated speed rpm : 585
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance 1/min : +- 30
Rated speed rpm : 1150	100010100 1710111 1 00
Aneroid pressure	Rated speed rpm : 100
hPa : - +	
Del. quantity + cm3/1000 strokes : 87.0 +	CRT mm min. : > 19.00
cm3/1000 strokes : 87.0 +	
cm3/1000 strokes : +- 0.5	TORQUE CONTROL
Check tolerance	
cm3/1000s. : +- 2.5	Rated speed rpm : 1150
Spreed	rack travel mm : 10.55 Tolerance mm : +- 0.05
Tolerance + cm3/1000 strokes : 3.0 +	Tolerance mm : +- 0.05
Check tolerance	Rated speed rpm : 500
cm3/1000s. : 7.0	rack travel mm : 10.85
+	Tolerance mm : + 0.05
†	Rated speed rpm : 800
CONTROL LEVER	Rated speed rpm : 800 rack travel mm : 10.85
POINTINGE PEACE	Tolerance mm : + 0.05
control lever	
position degree : 103.0	Rated speed rpm : 960
tolerance degree : +- 4.0 +	rack travel mm : 10.70

VEI THEOR	CHARACTERISTICS

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity cm3/1000 strokes : 81.5

Tolerance

cm3/1000 strokes : +-1.5

Check tolerance cm3/1000s.

3.5

Aneroid pressure

hPa

800 Rated speed rpm

Del. quantity

cm3/1000 strokes : 86.0

Tolerance

cm3/1000 strokes : +-1.5

Check tolerance

cm3/1000s. 3.5

BREAKAWAY

9.50 Rack travel in mm : Rated speed rpm : 1195 Tolerance 1/min : +-

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm 20.00 Tolerance mm : +- 1.00

LOW TOLE

Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.0 Spreed Tolerance 4.5 cm3/1000 strokes : Check tolerance 7.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 23.04.96 Test oil : ISO 4113

Combination No. : 9 400 085 314

Injection pump

Pump designation : PES6A90D320RS2718 EP type number : 9 400 084 003

Governor

Governer design. : RSV350...1150A2C2097

: -2R

Governer no. : 9 420 083 276

Cust. part No. :

Customer-spec. information

Customer : MWM

Motor : TD 229 EC-06

Power KW : 117.8

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.75
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Beginning of delivery differende

and maximum rack

travel : 10.50
Tolerance mm : + 1.50
Difference * CS : 3.50

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 11.75
Tolerance mm: + 0.05

Del. quantity

cm3/1000 strokes : 91.0

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. : +- 2.5

K25

		1	
Spreed Tolerance cm3/1000 strokes	: 3.0	control lever position degree tolerance degree	: 97.0 : +- 4.0
Check tolerance cm3/1000s.	: 7.0	RATED SPEED	
Del. quantity cm3/1000 strokes	-	rack travel mm Rated speed rpm Tolerance 1/min	: 1195
Tolerance cm3/1000 strokes	: + 2.0	rack travel mm	
Check tolerance cm3/1000s. Spreed	: +- 4.0	Rated speed rpm Tolerance 1/min	
Tolerance cm3/1000 strokes	: 4.5	rack travel mm Tolerance mm	: 0.85 : +- 0.55
Check tolerance cm3/1000s.	: 7.0	Rated speed rpm	: 1450
(B) SETTING OF INJ	ECTION PUMP	LOW IDLE	
WITH GOVERNOR	-		
		control lever position degree	
GUIDE SLEEVE POSIT	ION	tolerance degree	: +- 4.0
Rated speed rpm	: 800	- Setting point w/c	out bumper spring
Rack travel in mm Tolerance mm		- Rated speed rpm - rack travel mm	
governor spring pre-tension		Testing:	
click setting x	: 4.00	 Rated speed rpm rack travel mm Tolerance mm 	: 350 : 6.50
FULL LOAD DELIVERY	AT FULL LOAD STOP	<u>-</u>	: + 0.10
Rated speed rpm	: 1150	rack travel mmRated speed rpm	: 2.00 : 620
Aneroid pressure		- Tolerance 1/min	
Del. quantity	. 01.0	- Rated speed rpm	: 100
cm3/1000 strokes Tolerance	-{	- CRT mm min.	: > 19.00
cm3/1000 strokes Check tolerance	: + 0.5		
cm3/1000s. Spreed	: + 2.5	TORQUE CONTROL	
Tolerance cm3/1000 strokes	: 3.0	 Rated speed rpm rack travel mm 	: 11.75
Check tolerance	: 7.0	- Tolerance mm	: +- 0.05
	1	 Rated speed rpm rack travel mm 	: 500 : 12.15
CONTROL FUED		Tolerance mm	: +- 0.05
CONTROL LEVER	+	Rated speed rpm rack travel mm	: 800 : 11.95

End of test specification sheet

Tolerance

cm3/1000s.

cm3/1000 strokes :

Check tolerance

4.5

7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.04.96 : ISO 4113 Test oil

Combination No. : 9 400 085 316

Injection pump

Pump designation : PES6A95D41ORS2795 EP type number : 9 400 084 020

Governor

Governer design. : RQV300...1400AB1065

: -18L

: 9 420 080 278 Governer no.

Cust, part No.

Customer-spec. information Customer : MBB : OM 366 Motor : 100.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : + 2.0 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 : +- 1.5 Tolerance bar

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm Tolerance mm : + 0.05Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm: 9.95 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes :

69.5

Tolerance

cm3/1000 strokes : \leftarrow 1.0

Check tolerance cm3/1000s.

: +-3.0

Spreed Tolerance

cm3/1000 strokes : 3.5

Check tolerance cm3/1000s.

8.0

1	Spreed
Del. quantity	Tolerance
cm3/1000 strokes : 11.0	cm3/1000 strokes : 3.5
Tolerance	Check tolerance
cm3/1000 strokes : +- 2.0 +	cm3/1000s. : 8.0
Check tolerance	
cm3/1000s. : +- 4.5	
Spreed	
Tolerance +	CONTROL LEVER
cm3/1000 strokes : 5.5	
Check tolerance +	control lever
cm3/1000s, : 9.0	position degree : 62.0
	tolerance degree : +- 4.0
1	
(B) SETTING OF INJECTION PUMP	control lever
WITH GOVERNOR	position degree : 110.0
WITH GOVERNOR	tolerance degree : +- 4.0
<u> </u>	toterance degree . +- 4.0
CUTOE OF FEVE TRAVEL	DATEN COPEN
GUIDE SLEEVE TRAVEL	RATED SPEED
Dated aread area	and though an a 9 00
Rated speed rpm : 1500	rack travel mm : 8.90
guide sleeve +	Rated speed rpm : 1465
travel mm : 8.55	Tolerance 1/min : +- 5
Tolerance mm : + 0.05 +	
+	rack travel mm : 4.00
Rated speed rpm : 750 +	Rated speed rpm : 1560
guide sleeve	Tolerance 1/min : + 15
travel mm : 4.20 +	
Tolerance mm : +- 0.10 +	rack travel mm : 0.50
+	Tolerance mm : +- 0.50
Rated speed rpm : 300	Rated speed rpm : 1680
guide steeve	
travel mm : 1.05	
Tolerance mm : + 0.25	
Total di lac linii	LOW IDLE
Rated speed rpm : 500	204 1065
guide sleeve	
travel mm : 2.55	control lever
	position degree : 70.0
Tolerance mm : + 0.25	
Ť	tolerance degree : +- 4.0
CUIDE OF EENE DOCUTION	control lover
GUIDE SLEEVE POSITION	control lever
1	position degree : 21.0
Rated speed rpm : 1500 +	tolerance degree : +- 4.0
†	· •
Rack travel in mm: 16.50 +	Testing:
Tolerance mm : + 1.30 +	
+	Rated speed rpm : 300
	rack travel mm : 7.90 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP +	Tolerance mm : +- 0.10
+	
Rated speed rpm : 1400 +	Rated speed rpm : 100
Ariero la pressure	
Aneroid prossure	CRT mm min. : > 8.00
hPa : - +	CRT mm min. : > 8.00
hPa : - + Del. quantity +	
hPa : - + + + + + + + + + + + + + + + + + +	CRT mm min. : > 8.00 Rated speed rpm : 555
hPa : - Del. quantity + cm3/1000 strokes : 69.5 Tolerance +	
hPa : - + + + + + + + + + + + + + + + + + +	Rated speed rpm : 555
hPa : - Del. quantity + cm3/1000 strokes : 69.5 Tolerance +	

Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	
START CUT-OUT Rated speed rpm	; > 100
Rated speed rpm	: > 100 : < 250
Check speed 1/min Check	: > 80
speed 1/min	: < 270
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. BREAKAWAY Rack travel in mm Rated speed rpm	: 51.5 : + 2.0 : + 4.0 : 8.90 : 1465
Tolerance 1/min STARTING FUEL DEL	
Rated speed rpm	: 100
rack travel mm Tolerance mm Del. quantity	: 14.10 : + 0.10
cm3/1000 strokes Tolerance	: 84.0
cm3/1000 strokes Check tolerance cm3/1000s.	: ← 7.5 : ← 10.0

Del. quantity		
cm3/1000 strokes	:	11.0
Tolerance		
cm3/1000 strokes	: +-	2.0
Check tolerance		
cm3/1000s.	: +-	4.5
Spreed		
Tolerance		
cm3/1000 strokes	:	5.5
Check tolerance		
cm3/1000s.	:	9.0

End of test specification sheet

LOW IDLE

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 23,04,96 Edition : ISO 4113 Test oil Combination No. : 9 400 085 333 Injection pump Pump designation : PES4A95D410RS2805 EP type number : 9 400 084 026 Governor Governer design. : RQV300...1400AB1065 : -21L : 9 420 080 303 Governer no. Cust. part No. : Customer—spec. information : MBB Customer : OM 364 Motor Power KW : 66.0 TEST BENCH REQUIREMENTS Inlet line : 3.1 Test oil inlet temp. °C Tolerance °C 2.0 : 1 419 992 198 Overflow valve Inlet press. bar : 1.5 Test nozzle holde : 0 681 343 009 assembly Opening pressure 173.5 bar

: +- 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600 REMARKS (A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____ BEGINNING OF DELIVERY Test pressure bar : 26.0 Tolerance bar : +- 1.0 3.25 Prestroke mm : +- 0.05 Tolerance mm Check tolerance mm : + - 0.10Rack travel in mm: 10.50 Tolerance mm : + 1.50 Firing order : 1-3-4-2 Phasing : 0-90-180-270 BASIC SETTING Rated speed rpm : 1400 Rack travel in mm : 9.75 : +- 0.05 Tolerance mm Del. quantity cm3/1000 strokes : 69.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. 8.0

Tolerance bar

Del. quantity		+ Tolerance		
cm3/1000 strokes	: 8.0	+ cm3/1000 strokes	; 3.5	
Tolerance		+ Check tolerance		
cm3/1000 strokes	; +- 2.0	+ cm3/1000s.	: 8.0	
Check tolerance		1	. 3.5	
cm3/1000s.	: +- 4.5	1		
Spreed	. , 4.5			
Tolerance		CONTROL LEVER		
cm3/1000 strokes	; 5.5	T CONTROL LEVER		
	; 5.5	T and I lave		
Check tolerance	. 00	+ control lever	. (2.0	
cm3/1000s.	: 9.0	+ position degree		
		+ tolerance degree	: +- 4.0	
	TOWN AND MILITARY	†		
(B) SETTING OF INJ	ECTION PUMP	+ control lever	444	
WITH GOVERNOR		+ position degree		
		+ tolerance degree	: +- 4.0	
		+		
GUIDE SLEEVE TRAVE	L	+ RATED SPEED		
		+		
	: 1500	† rack travel mm	: 8.70	
guide sleeve		+ Rated speed rpm		
travel mm	: 8.55	† Tolerance 1/min	: +- 5	
Tolerance mm	: +- 0.05	+		
		🕴 rack travel mm	: 4.00	
Rated speed rpm	: 750	+ Rated speed rpm	: 1555	
guide sleeve		+ Tolerance 1/min		
travel mm	: 4.20	+		
Tolerance mm	: + 0.10	+ rack travel mm	: 0.50	
		+ Tolerance mm	: 0.50 : +- 0.50	
Rated speed rpm	: 300	+ Rated speed rpm		
guide sleeve		1	. , , , , ,	
guide steeve		- T		
travel mm	• 1.05	<u> </u>		
travel mm	: 1.05	<u> </u>		
	: 1.05 : + 0.25	I ON THE		
Tolerance mm	: +- 0.25	LOW IDLE		<u></u>
Tolerance mm Rated speed rpm		LOW IDLE		
Tolerance mm Rated speed rpm guide sleeve	: +- 0.25 : 500	+		
Tolerance mm Rated speed rpm guide sleeve travel mm	: +- 0.25 : 500 : 2.55	control lever	. 40.0	
Tolerance mm Rated speed rpm guide sleeve	: +- 0.25 : 500	control lever position degree		
Tolerance mm Rated speed rpm guide sleeve travel mm	: +- 0.25 : 500 : 2.55	control lever		
Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: + 0.25 : 500 : 2.55 : + 0.25	control lever position degree tolerance degree		
Tolerance mm Rated speed rpm guide sleeve travel mm	: + 0.25 : 500 : 2.55 : + 0.25	control lever position degree tolerance degree control lever	: +- 4.0	
Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm GUIDE SLEEVE POSIT	: + 0.25 : 500 : 2.55 : + 0.25	control lever position degree tolerance degree control lever position degree	: + 4.0 : 20.0	
Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: + 0.25 : 500 : 2.55 : + 0.25	control lever position degree tolerance degree control lever	: + 4.0 : 20.0	
Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm GUIDE SLEEVE POSIT Rated speed rpm	: + 0.25 : 500 : 2.55 : + 0.25 ION : 1500	control lever position degree tolerance degree control lever position degree tolerance degree	: + 4.0 : 20.0	
Tolerance mm Rated speed rpm guide steeve travel mm Tolerance mm GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm	: + 0.25 : 500 : 2.55 : + 0.25 	control lever position degree tolerance degree control lever position degree	: + 4.0 : 20.0	
Rated speed rpm guide sleeve travel mm Tolerance mm GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm	: + 0.25 : 500 : 2.55 : + 0.25 ION : 1500	control lever position degree tolerance degree control lever position degree tolerance degree Testing:	: +- 4.0 : 20.0 : +- 4.0	
Tolerance mm Rated speed rpm guide steeve travel mm Tolerance mm GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm	: + 0.25 : 500 : 2.55 : + 0.25 	control lever position degree tolerance degree control lever position degree tolerance degree Testing: Rated speed rpm	: + 4.0 : 20.0 : + 4.0	
Rated speed rpm guide steeve travel mm Tolerance mm GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm	: + 0.25 : 500 : 2.55 : + 0.25 ION : 1500 : 16.50 : + 1.30	control lever position degree tolerance degree control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm	: + 4.0 : 20.0 : + 4.0 : 300 : 7.50	
Tolerance mm Rated speed rpm guide steeve travel mm Tolerance mm GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm	: + 0.25 : 500 : 2.55 : + 0.25 ION : 1500 : 16.50 : + 1.30	control lever position degree tolerance degree control lever position degree tolerance degree Testing: Rated speed rpm	: + 4.0 : 20.0 : + 4.0	
Rated speed rpm guide steeve travel mm Tolerance mm GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm	: + 0.25 : 500 : 2.55 : + 0.25 ION : 1500 : 16.50 : + 1.30	control lever position degree tolerance degree control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm	: + 4.0 : 20.0 : + 4.0 : 300 : 7.50 : + 0.10	
Rated speed rpm guide steeve travel mm Tolerance mm GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVERY Rated speed rpm	: + 0.25 : 500 : 2.55 : + 0.25 ION : 1500 : 16.50 : + 1.30	control lever position degree tolerance degree control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm	: + 4.0 : 20.0 : + 4.0 : 300 : 7.50 : + 0.10	
Rated speed rpm guide steeve travel mm Tolerance mm GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVERY Rated speed rpm Aneroid pressure	: + 0.25 : 500 : 2.55 : + 0.25 ION : 1500 : 16.50 : + 1.30 AT FULL LOAD STOP : 1400	control lever position degree tolerance degree control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: + 4.0 : 20.0 : + 4.0 : 300 : 7.50 : + 0.10 : 100	
Rated speed rpm guide steeve travel mm Tolerance mm GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa	: + 0.25 : 500 : 2.55 : + 0.25 ION : 1500 : 16.50 : + 1.30	control lever position degree tolerance degree control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm	: + 4.0 : 20.0 : + 4.0 : 300 : 7.50 : + 0.10	
Rated speed rpm guide sleeve travel mm Tolerance mm GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa Del. quantity	: + 0.25 : 500 : 2.55 : + 0.25 ION : 1500 : 16.50 : + 1.30 AT FULL LOAD STOP : 1400 : -	control lever position degree tolerance degree control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min.	: + 4.0 : 20.0 : + 4.0 : 300 : 7.50 : + 0.10 : 100 : > 7.50	
Rated speed rpm guide sleeve travel mm Tolerance mm GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: + 0.25 : 500 : 2.55 : + 0.25 ION : 1500 : 16.50 : + 1.30 AT FULL LOAD STOP : 1400 : -	control lever position degree tolerance degree control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: + 4.0 : 20.0 : + 4.0 : 300 : 7.50 : + 0.10 : 100 : > 7.50	
Rated speed rpm guide sleeve travel mm Tolerance mm GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	: + 0.25 : 500 : 2.55 : + 0.25 ION : 1500 : 16.50 : + 1.30 AT FULL LOAD STOP : 1400 : - : 69.0	control lever position degree tolerance degree control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min.	: + 4.0 : 20.0 : + 4.0 : 300 : 7.50 : + 0.10 : 100 : > 7.50	
Rated speed rpm guide sleeve travel mm Tolerance mm GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: + 0.25 : 500 : 2.55 : + 0.25 ION : 1500 : 16.50 : + 1.30 AT FULL LOAD STOP : 1400 : -	control lever position degree tolerance degree control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min. Rated speed rpm	: + 4.0 : 20.0 : + 4.0 : 300 : 7.50 : + 0.10 : 100 : > 7.50	
Rated speed rpm guide sleeve travel mm Tolerance mm GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: + 0.25 : 500 : 2.55 : + 0.25 ION : 1500 : 16.50 : + 1.30 AT FULL LOAD STOP : 1400 : - : 69.0 : + 1.0	control lever position degree tolerance degree control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min.	: + 4.0 : 20.0 : + 4.0 : 300 : 7.50 : + 0.10 : 100 : > 7.50	
Rated speed rpm guide sleeve travel mm Tolerance mm GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 0.25 : 500 : 2.55 : + 0.25 ION : 1500 : 16.50 : + 1.30 AT FULL LOAD STOP : 1400 : - : 69.0	control lever position degree tolerance degree control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min. Rated speed rpm TORQUE CONTROL	: + 4.0 : 20.0 : + 4.0 : 300 : 7.50 : + 0.10 : 100 : > 7.50 : 555	
Rated speed rpm guide sleeve travel mm Tolerance mm GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm FULL LOAD DELIVERY Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: + 0.25 : 500 : 2.55 : + 0.25 ION : 1500 : 16.50 : + 1.30 AT FULL LOAD STOP : 1400 : - : 69.0 : + 1.0	control lever position degree tolerance degree control lever position degree tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min. Rated speed rpm	: + 4.0 : 20.0 : + 4.0 : 300 : 7.50 : + 0.10 : 100 : > 7.50 : 555	

rack travel mm Tolerance mm	: 9.75 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 700 : 9.75 : + 0.05
TOCCI CITICO TIMI	0.03
START CUT-OUT	
Rated speed rpm Rated speed rpm	: > 100 : < 250
Check speed 1/min	; > 80
Check speed 1/min	: < 270
FUEL DELIVERY CHAI	RACTERISTICS
Aneroid pressure	• -
Rated speed rpm	700
Del. quantity cm3/1000 strokes	: 56.5
Tolerance	
cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s.	: +- 4.0
BREAKAWAY	
Rack travel in mm	
Rated speed rpm Tolerance 1/min	: 1465 : +- 5
Toterance Timin	; 3
STARTING FUEL DELI	VERY
Rated speed rpm	: 100
rack travel mm	: 13.90 : +- 0.10
Tolerance mm Del. quantity	. T- U.IU
cm3/1000 strokes	: 84.0
Tolerance cm3/1000 strokes	: +- 7.5
Check tolerance	
cm3/1000s.	: +- 10.0

Del. quantity		
cm3/1000 strokes	:	8.0
Tolerance		
cm3/1000 strokes	: +-	2.0
Check tolerance		
cm3/1000s.	: +-	4.5
Spreed		
Tolerance		
cm3/1000 strokes	:	5.5
Check tolerance		
cm3/1000s.	:	9.0
	·	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23.04.96 Test oil : ISO 4113

Combination No. : 9 400 085 337

Injection pump

Pump designation : PES6A95D41ORS2812 EP type number : 9 400 084 028

Governor

Governer design. : RQV350...1300AB1260L

Governer no. : 9 420 080 306

Cust. part No. : 9.0520.05.6.9501

Customer-spec. information

Customer : MWM

Motor : TD 610 / X-10

Power KW : 143.9

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.80 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Beginning of delivery differende

and maximum rack

travel : 10.50
Tolerance mm : + 1.50
Difference ° CS : 2.00

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 12.05
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 94.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 3.0

	+	
Spreed Tolerance cm3/1000 strokes	: 3.5	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance cm3/1000s.	: 8.0	Rated speed rpm : 1300 Aneroid pressure hPa : 800 Del. quantity
Del. quantity cm3/1000 strokes Tolerance	: 10.5	cm3/1000 strokes : 94.5 Tolerance cm3/1000 strokes : + 1.0
	: + 2.0	Check tolerance cm3/1000s. : +- 3.0
cm3/1000s. Spreed	: + 4.5	Spreed Tolerance
Tolerance cm3/1000 strokes	: 5.5	cm3/1000 strokes : 3.5 Check tolerance
Check tolerance cm3/1000s.	: 9.0	cm3/1000s. : 8.0
(B) SETTING OF INJ	ECTION PUMP	CONTROL LEVER
WITH GOVERNOR	‡	control lever
GUIDE SLEEVE TRAVE	<u> </u>	position degree : 56.0 tolerance degree : +- 4.0
Rated speed rpm guide sleeve	: 1350	control lever position degree : 111.0
travel mm	: 7.20 : + 0.10	tolerance degree : +- 4.0
	: 800	RATED SPEED
guide sleeve travel mm Tolerance mm	: 3.95 : + 0.25	rack travel mm : 11.00 Rated speed rpm : 1345 Tolerance 1/min : +- 5
	: 300	rack travel mm : 4.00
guide sleeve travel mm	: 1.05	Rated speed rpm : 1505 Tolerance 1/min : + 15
	: +- 0.25 : 550	rack travel mm : 0.50 Tolerance mm : +- 0.50
guide sleeve travel mm	· 2.75	Rated speed rpm : 1650
	: + 0.25	
Rated speed rpm guide sleeve	: 1500	LOW IDLE
travel mm Tolerance mm	: 8.55 : + 0.25	control lever
	+	position degree : 67.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSIT	ION	control lever
Rated speed rpm	+	position degree : 12.0 tolerance degree : +- 4.0
Rack travel in mm Tolerance mm		Testing:
	•	

	Rated speed rpm rack travel mm	: 5.50	+ Rated speed rpm : < 270
	Tolerance mm	: +- 0.10	+ Check
		400	+ speed 1/min : > 80
	Rated speed rpm	: 100	+ Check
			+ speed 1/min : < 290
	CRT mm min.	: > 6.50	†
	Rated speed rpm	. /25	FUEL DELIVERY CHARACTERISTICS
	varied sheed this	. 423	I FOEL DELIVERY CHARACTERISTICS
			Aneroid pressure
	TORQUE CONTROL		+ hPa : 800
	441-1114		Rated speed rpm : 800
	Rated speed rpm	: 1300	+ Del. quantity
	rack travel mm	: 12.05	+ cm3/1000 strokes : 95.5
	rack travel mm Tolerance mm	: +- 0.05	+ Tolerance
			+ cm3/1000 strokes : +- 2.0
	Rated speed rpm	: 800	+ Check tolerance
	rack travel mm	: 12.35	+ cm3/1000s. : +- 4.0
	Tolerance mm	: +- 0.05	1
	, - 401 - 4110		Aneroid pressure
	Rated speed rpm	: 850	hPa : -
	rack travel mm Tolerance mm	12.35	Rated speed rpm : 500
	Tolerance mm	: +- 0.05	+ Del. quantity
	TO COT MITTOO THE		+ cm3/1000 strokes : 59.5
	Rated speed rpm	: 1150	+ Tolerance
	rack travel mm		+ cm3/1000 strokes : + 1.0
	Tolerance mm	: + 0.05	- Check tolerance
	TOCC: GITOC TIME		+ cm3/1000s. : +- 3.0
	ANEROID/ALTITUDE		
	COMPENSATOR TEST		+ BREAKAWAY
	OGIN ENDATOR TEST		
			1
	SETTING		Rack travel in mm: 11.00
			+ Rated speed rpm : 1345
	Rated speed rpm	: 500	+ Tolerance 1/min : + 5
	Pressure hPa	: 800	Total allow 17 mm
	Pressure hPa rack travel mm	: 12.35	1
	Tolerance mm	: +- 0.05	
	rocci aribo iinii		+ STARTING FUEL DELIVERY
	MEASUREMENT		
			A Rated speed rpm : 100
1	Pressure hPa	: -	+ rack travel mm : ZU.UU
	Pressure hPa Rated speed rom	: 500	+ rack travel mm : 20.00 + Tolerance mm : + 1.00
	Pressure hPa Rated speed rpm	500	Tolerance mm : 20.00
	Rated speed rpm		Tolerance mm : 20.00 Tolerance mm : + 1.00
			Tolerance mm : 20.00 Tolerance mm : + 1.00
1	Rated speed rpm		Tolerance mm : 20.00 Tolerance mm : + 1.00
1	Rated speed rpm Rated speed rpm Pressure hPa	: 500	Tolerance mm : 20.00 Tolerance mm : + 1.00 LOW IDLE
1	Rated speed rpm Rated speed rpm Pressure hPa rack travel mm	: 500 : 190 : 0.45	Tolerance mm : + 1.00
1	Rated speed rpm Rated speed rpm Pressure hPa	: 500 : 190	Tolerance mm : + 1.00
1	Rated speed rpm Rated speed rpm Pressure hPa rack travel mm	: 500 : 190 : 0.45	Tolerance mm : + 1.00 LOW IDLE
	Rated speed rpm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa	: 500 : 190 : 0.45 : + 0.05	Tolerance mm : + 1.00 LOW IDLE Del. quantity
1	Rated speed rpm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 190 : 0.45 : + 0.05 : 460	Tolerance mm : + 1.00 LOW IDLE Del. quantity cm3/1000 strokes : 10.5
1	Rated speed rpm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm	: 500 : 190 : 0.45 : + 0.05 : 460 : 1.55	Tolerance mm : + 1.00 LOW IDLE Del. quantity cm3/1000 strokes : 10.5 Tolerance
1	Rated speed rpm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm	: 500 : 190 : 0.45 : + 0.05 : 460 : 1.55	Tolerance mm : + 1.00 LOW IDLE Del. quantity cm3/1000 strokes : 10.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance
	Rated speed rpm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 500 : 190 : 0.45 : + 0.05 : 460 : 1.55	Tolerance mm : + 1.00 LOW IDLE Del. quantity cm3/1000 strokes : 10.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5
	Rated speed rpm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm	: 500 : 190 : 0.45 : + 0.05 : 460 : 1.55	Tolerance mm : + 1.00 LOW IDLE Del. quantity cm3/1000 strokes : 10.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed
	Rated speed rpm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 500 : 190 : 0.45 : + 0.05 : 460 : 1.55 : + 0.15	Tolerance mm : + 1.00 LOW IDLE Del. quantity cm3/1000 strokes : 10.5 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5

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Check tolerance cm3/1000s.	:	9.0	

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 23.04.96 Edition : ISO 4113 Test oil Combination No. : 9 400 085 346 Injection pump Pump designation : PES4A95D410RS2805 EP type number : 9 400 084 026 Governor Governer design. : RSV350...900A7C2O76 : -2L : 9 420 083 253 Governer no. Cust. part No. Customer-spec. information Customer : MBB : OM 364 Motor Power KW : 46.0 TEST BENCH REQUIREMENTS Inlet line : 3.2 Test oil inlet temp. °C 40 2.0 Tolerance °C : 1 419 992 198 Overflow valve Inlet press. bar : 1.5 Test nozzle holde : 0 681 343 009 assembly Opening pressure

: 173.5 : + 1.5

: 1 680 750 015

6.0

REMARKS	
(A) INJECTION PUM Set equal delivery per values	
BEGINNING OF DELIV	
Test pressure bar Tolerance bar	: 26.0 : + 1.0
Prestroke mm Tolerance mm Check	: 3.25 : + 0.05
tolerance mm	: +- 0.10
Rack travel in mm Tolerance mm	: 10.50 : + 1.50
Firing order	: 1-3-4-2
Phasing	: 0-90-180-270
BASIC SETTING	
Rated speed rpm	: 860
Rack travel in mm Tolerance mm	
Del. quantity cm3/1000 strokes	: 58.5
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: +- 3.0
Spreed Folerance cm3/1000 strokes	: 3.5
Check tolerance	: 8.0

x inside diameter:

3.0

Tolerance bar

Outside diameter :

Test lines

N - 1						
Del. quantity cm3/1000 strokes		7.5	Ī	Rated speed rpm	•	935
Tolerance	•	1.5	I	Tolerance 1/min	: +	4
cm3/1000 strokes	: +-	2.0	+	rack travel mm	:	4.00
Check tolerance			+			
cm3/1000s.	: +	4.5	+	rack travel mm	:	0.85
Spreed Tolerance			†	Tolerance mm Rated speed rpm		0.55
cm3/1000 strokes	:	5. 5	I	karen sheen thii	•	1100
Check tolerance	•	3.3	1	Rated speed rpm	:	911
cm3/1000s.	:	9.0	+	rack travel mm		7.60
			+			074
(B) SETTING OF IN	ICCTION	DUMD	†	Rated speed rpm Tolerance 1/min		936 4
WITH GOVERNOR	OEC LTON	FUMP	I	rack travel mm		4.00
WATTI GOVERNOON			1	TOOK ETGYCE TIME	•	4.00
			+	rack travel mm	:	0.85
AUT A BOOK DAAT			+	Tolerance mm		0.55
GUIDE SLEEVE POSI	ITON		1	Rated speed rpm	:	1100
Rated speed rpm	: 8	00	Ī	Rated speed rpm	:	912
·			+	rack travel mm		7.60
Rack travel in mm			+			
Tolerance mm	: +-	0.20	+	Rated speed rpm		937
governor spring			Ī	Tolerance 1/min rack travel mm		4 4.00
pre-tension			I	I GCK CI GVCC IIIII	•	4.00
click setting x	: (5.75	+	rack travel mm	:	0.85
_			+	Tolerance mm		0.55
FULL LOAD DELTUED	V AT FU	I LOAD STOD	†	Rated speed rpm	•	1100
FULL LOAD DELIVER	T AT FUI	LL LOAD STOP	Ī	Rated speed rpm	:	913
Rated speed rpm	: 80	50	1	rack travel mm	:	7.60
Aneroid pressure			+			
hPa	:		+	Rated speed rpm		938
Del. quantity cm3/1000 strokes		58.5	İ	Tolerance 1/min rack travel mm	: +	4.00
Tolerance	• •	70.7	I	Tack Cravet IIIII	•	4.00
cm3/1000 strokes	: +-	1.0	+	rack travel mm	:	0.85
Check tolerance			+	Tolerance mm		0.55
cm3/1000s.	: +	3.0	+	Rated speed rpm		1100
Spreed Tolerance			İ	Rated speed rpm	:	914
cm3/1000 strokes	:	3.5	I	rack travel mm	:	7.60
Check tolerance			+			
cm3/1000s.	:	8.0	+	Rated speed rpm	:	939
			†	Tolerance 1/min rack travel mm	: +	4 4.00
			I	rack travet iiiii	•	4.00
CONTROL LEVER			+	rack travel mm	:	0.85
			+	Tolerance mm		0.55
control lever	. 44	12.0	†	Rated speed rpm	: '	1100
position degree tolerance degree		12.0 4.0	Ī	Rated speed rpm	•	915
toterance degree	• '	4.0	I	rack travel mm	:	7.60
			+		•	
ASSEMBLY GOVERNOR	SETTING	i	+	Rated speed rpm	:	940
Data dana ana ada arra		240	†	Tolerance 1/min	; +-	4 4 00
Rated speed rpm rack travel mm		210 7.60	İ	rack travel mm	•	4.00
TOUR CLOVE THAT	• (.00	T			

0.85 rack travel mm Tolerance mm 0.55 1100 Rated speed rpm

LOW IDLE

control lever

82.0 position degree tolerance degree : +-4.0

Setting point w/out bumper spring

Rated speed rpm 350 rack travel mm 6.00

Testing:

Rated speed rpm 350 6.50 rack travel mm : + 0.10Tolerance mm

2.00 rack travel mm Rated speed rpm 410 Tolerance 1/min 30

Rated speed rpm 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rom 860 rack travel mm 8.65 Tolerance mm : +- 0.05

Rated speed rpm 500 8.70 rack travel mm Tolerance mm +- 0.10

400 Rated speed rpm rack travel mm 9.60 Tolerance mm : + 0.30

STARTING FUEL DELIVERY

100 Rated speed rpm 13.40 rack travel mm : +- 0.10 Tolerance mm Del. quantity

cm3/1000 strokes : 84.0 Tolerance

cm3/1000 strokes : +- 7.5

Check tolerance

cm3/1000s. : +- 10.0

LOW IDLE

Del. quantity

cm3/1000 strokes : 7.5

Tolerance

cm3/1000 strokes 2.0

Check tolerance

cm3/1000s. 4.5

Spreed Tolerance

cm3/1000 strokes : 5.5

Check tolerance

cm3/1000s. 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23,04,96 Test oil : ISO 4113

Combination No. : 9 400 085 348

Injection pump

Pump designation : PES6A95D41ORS2812 EP type number : 9 400 084 028

Governor

Governer design. : RSV350...900A7C805L

: 9 420 083 263 Governer no.

: 9.0520.05.6.9504 Cust. part No.

Customer-spec. information Customer : MWM : 6.10 TCA Motor Power KW : 154.5

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C 2.0

: 1 419 992 198 Overflow valve

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 : +- 1.5 Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0 x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +-1.0

Prestroke mm 2.80 : + 0.05Tolerance mm

Check

: + - 0.10tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Beginning of delivery differende

and maximum rack

10.50 travel Tolerance mm : +- 1.50 Difference ° CS : 2.00

BASIC SETTING

850 Rated speed rpm :

13.95 Rack travel in mm : Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 137.5

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.0

		1			
Spreed Tolerance cm3/1000 strokes	: 3.5	1	control lever position degree tolerance degree		106.0 4.0
Check tolerance cm3/1000s.	: 8.0	<u> </u>	ASSEMBLY GOVERNOR	SETT	ING
Del. quantity cm3/1000 strokes Tolerance	: 17.5	+	Rated speed rpm rack travel mm	:	900 13.00
cm3/1000 strokes Check tolerance	: +- 2.0	Ī	Rated speed rpm Tolerance 1/min	: : +-	945 4
cm3/1000s. Spreed	: +- 4.5	‡	rack travel mm	•	4.00
Tolerance cm3/1000 strokes Check tolerance	: 5.5	‡	rack travel mm Tolerance mm	: +-	0.85 0.55 1100
cm3/1000s.	: 9.0	Ī	Rated speed rpm Rated speed rpm	•	901
(B) SETTING OF IN	JECTION PUMP	‡	rack travel mm	•	13.00
WITH GOVERNOR		+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Tolerance 1/min rack travel mm	: +-	946 4 4.00
GUIDE SLEEVE POSI	TION	1	rack travel mm Tolerance mm	: +-	0.85 0.55
Rated speed rpm	: 800		Rated speed rpm	:	1100
Rack travel in mm Tolerance mm	: 0.65 : + 0.35		Rated speed rpm rack travel mm	•	902 13.00
governor spring pre-tension click setting x	: 5.20	+	Rated speed rpm Tolerance 1/min rack travel mm	: : 	947 4 4.00
FULL LOAD DELIVERY	AT FULL LOAD STOP	+	rack travel mm Tolerance mm Rated speed rpm	: +-	0.85 0.55 1100
Aneroid pressure hPa	: -		Rated speed rpm rack travel mm	•	903 13.00
Del. quantity cm3/1000 strokes Tolerance	: 137.5	+	Rated speed rpm Tolerance 1/min	: +-	948 4
cm3/1000 strokes Check tolerance	: + 1.0	+	rack travel mm	:	4.00
cm3/1000s. Spreed Tolerance	: +- 3.0	+	rack travel mm Tolerance mm Rated speed rpm		0.85 0.55 1100
cm3/1000 strokes Check tolerance cm3/10008.	: 3.5 : 8.0		Rated speed rpm rack travel mm	:	904 13.00
CIII-7 TUUUS.	. 0.0	+	Rated speed rpm	:	949
CONTROL LEVER		+ -	Tolerance 1/min rack travel mm	+-	4.00
		‡ ,	rack travel mm	:	0.85

Tolerance mm	: + 0.55
Rated speed rpm	: 1100
Rated speed rpm	: 905
rack travel mm	: 13.00
Rated speed rpm	: 950
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: +- 0.55
Rated speed rpm	: 1100

LOW IDLE

control lever
position degree : 75.0
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 350 rack travel mm : 5.00

Testing:

Rated speed rpm : 350 rack travel mm : 5.50 Tolerance mm : + 0.10

rack travel mm : 2.00
Rated speed rpm : 395
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 850 rack travel mm : 13.95 Tolerance mm : + 0.05

Rated speed rpm : 550 rack travel mm : 14.00 Tolerance mm : + 0.10

Rated speed rpm : 400 rack travel mm : 15.50 Tolerance mm : + 0.30

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : + 1.00

LOW IDLE

Del. quantity		45.5	
cm3/1000 strokes	:	17.5	
Tolerance		2.0	
cm3/1000 strokes	: +	2.0	
Check tolerance			
cm3/1000s.	: +	4.5	
Spreed			
Tolerance			
cm3/1000 strokes	:	5 . 5	
Check tolerance			
cm3/1000s.		9.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 23,04,96 Test oil : ISO 4113

Combination No. : 9 400 085 352

Injection pump

Pump designation : PES6A95D41ORS2795 EP type number : 9 400 084 020

Governor

Governer design. : RSV350...1050A0C1150

: -7L

: 9 420 083 287 Governer no.

Cust. part No. :

Customer-spec. information : MBB Customer : OM 366 Motor : 70.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

: 1 419 992 198 Overflow valve

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar : +- 1.5 Tolerance bar

Test Lines : 1 680 750 015

Outside diameter : 6.0 x inside diameter: 3.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 3.25 : +- 0.05 Tolerance mm Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

: 4

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 7.85 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 48.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

: +- 3.0

Spreed

Tolerance

cm3/1000 strokes :

3.5

Check tolerance

cm3/1000s. 8.0

No. 1 assessed Sales .	
Del. quantity cm3/1000 strokes : 13.0	
Tolerance	
cm3/1000 strokes : +- 2.0	
Check tolerance	
cm3/1000s. : +- 4.5	
Spreed Tolerance	
cm3/1000 strokes : 5.5	
Check tolerance	
cm3/1000s. : 9.0	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	
GUIDE SLEEVE POSITION	
Rated speed rpm : 800	
Nated apeed 1 pm . Coo	
Rack travel in mm: 0.65	
Tolerance mm : +- 0.35	
governor spring	
pre-tension	
click setting x : 5.50	
FILL LOAD DELTHERY AT ELLI LOAD	CTOD
FULL LOAD DELIVERY AT FULL LOAD	STOP
FULL LOAD DELIVERY AT FULL LOAD Rated speed rpm : 1050	STOP
Rated speed rpm : 1050 Aneroid pressure	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : -	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 48.5	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 48.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 48.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 48.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 48.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 48.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 48.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 48.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 48.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 48.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 48.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000 strokes : 8.0 CONTROL LEVER	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 48.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 8.0 CONTROL LEVER control lever	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 48.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 8.0 CONTROL LEVER control lever	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 48.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 8.0	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 48.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 8.0 CONTROL LEVER control lever	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 48.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 8.0 CONTROL LEVER control lever position degree : 105.0 tolerance degree : + 4.0 RATED SPEED	STOP
Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 48.5 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 3.0 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 8.0 CONTROL LEVER control lever position degree : 105.0 tolerance degree : + 4.0	STOP

Tolerance 1/min	: +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1145 : +- 15
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1300
LOW IDLE	ni isto 1 tota ana dan kama ana ana ana ana ana ana ana ana ana
control lever position degree tolerance degree	: 85.0 : +- 4.0
Setting point w/o	ut bumper spring
Rated speed rpm rack travel mm	: 350 : 6.50
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 350 : 7.00 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 585 : + 30
Rated speed rpm	: 100
CRT mm min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1050 : 7.85 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 600 : 9.25 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 900 : 8.20 : + 0.10
FUEL DELIVERY CHAP	RACTERISTICS

Aneroid pressure 600 Rated speed rpm : Del. quantity cm3/1000 strokes : 54.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.0 Aneroid pressure hPa 900 Rated speed rpm Del. quantity cm3/1000 strokes : 53.5 Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. 4.0 BREAKAWAY Rack travel in mm : 6.80 Rated speed rpm : 1095 Tolerance 1/min : + 5 STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 13.00 : + 0.10Tolerance mm Del. quantity cm3/1000 strokes : 84.0 Tolerance cm3/1000 strokes : + 7.5Check tolerance cm3/1000s. : +- 10.0 LOW IDLE Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance 5.5 cm3/1000 strokes : Check tolerance 9.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17.04.96 Edition : ISO 4113 Test oil

Combination No. : 9 400 087 305

Injection pump

Pump designation : PES6P110A720RS3145 : 9 400 087 033 EP type number

Governor

Governer design. : RQV350...1300PA748

Governer no. : 9 420 080 193

Cust. part No. :

Customer-spec. information Customer : FORD Motor : 6,61 TC Power KW : 123.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C 40 Tolerance °C : +--2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 017 assembly

Opening pressure

: 208.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 4.30 Tolerance mm : +- 0.05 Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: ~300

Beginning of delivery differende

and maximum rack

10.50 travel Tolerance mm : +- 1.50 Difference ° CS : 3.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.65 Toterance mm : +- 0.05

Del. quantity cm3/1000 strokes : 95.0

Tolerance cm3/1000 strokes : + 1.5

Check tolerance : +- 4.0 cm3/1000s.

	+
Spreed Tolerance cm3/1000 strokes : 4.0	FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1300
Check tolerance cm3/1000s. : 7.5	Aneroid pressure hPa : - Del. quantity
Del. quantity cm3/1000 strokes : 12.5 Tolerance	cm3/1000 strokes : 95.0 Tolerance cm3/1000 strokes : + 1.5
cm3/1000 strokes : +- 2.5 Check tolerance cm3/1000s. : +- 5.0	Check tolerance cm3/1000s. : + 4.0 Spreed
Spreed Tolerance cm3/1000 strokes : 4.5	Tolerance cm3/1000 strokes : 4.0 Check tolerance
Check tolerance cm3/1000s. : 7.5	- cm3/1000s. : 7.5
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER control lever
GUIDE SLEEVE TRAVEL	position degree : 64.0 tolerance degree : + 4.0
Rated speed rpm : 1300 guide sleeve	RATED SPEED
travel mm : 7.25 Tolerance mm : +- 0.05	+ rack travel mm : 10.60 + Rated speed rpm : 1365 + Tolerance 1/min : + 5
Rated speed rpm : 500 guide sleeve travel mm : 2.50 Tolerance mm : +- 0.20	rack travel mm : 4.00 Rated speed rpm : 1485 Tolerance 1/min : +- 15
Rated speed rpm : 1000 guide sleeve travel mm : 5.15 Tolerance mm : + 0.15	rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1600
Rated speed rpm : 800 guide sleeve travel mm : 4.15 Tolerance mm : +- 0.15	LOW IDLE
Rated speed rpm : 350 guide sleeve	control lever position degree : 16.0 tolerance degree : +- 4.0
travel mm : 0.95 Tolerance mm : +- 0.35	Testing:
GUIDE SLEEVE POSITION	Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : + 0.10
Rated speed rpm : 1350 Rack travel in mm : 16.50 Tolerance mm : +- 1.30	rack travel mm : 2.00 Rated speed rpm : 610 Tolerance 1/min : +- 30

Rated speed rpm 100 CRT mm min. : > 10.00 Rated speed rpm 405 TORQUE CONTROL Rated speed rpm 1300 rack travel mm 11.65 : ← 0.05 Tolerance mm Rated speed rom 800 rack travel mm 11.65 : +- 0.05 Tolerance mm START CUT-OUT : > 230 Rated speed rpm Rated speed rpm 290 : < Check speed 1/min : > 210 Check speed 1/min : < 310 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 800 Rated speed rpm Del. quantity cm3/1000 strokes : 93.5 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000S. 4.0 BREAKAWAY Rack travel in mm: 10.60 Rated speed rpm : Tolerance 1/min STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 20.50 Tolerance mm : **←** 0.50 Del. quantity cm3/1000 strokes : 115.0

Tolerance cm3/1000 strokes : + 10.0Check tolerance cm3/1000s. : +- 14.0 LOW IDLE Del. quantity cm3/1000 strokes : 12.5 Tolerance cm3/1000 strokes : +-2.5 Check tolerance cm3/1000s. 5.0 : +-Spreed Tolerance 4.5 cm3/1000 strokes :

7.5

End of test specification sheet

Check tolerance cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17.04.96 Edition Test oil : ISO 4113

Combination No. : 9 400 087 308

Injection pump

Pump designation : PE5P110A720RS479 EP type number : 9 400 087 040

Governor

Governer design. : RQ300/1050PA718-1 Governer no. : 9 420 080 187

Cust. part No. : 3450749401

Customer-spec, information

: MBB Customer

: 0M355-5 A Motor

Power KW : 170.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C : +-Tolerance °C

Overflow valve : 1 417 413 000

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 : + 1.5 bar Tolerance bar

: 1 680 750 004 Test lines

Outside diameter : 6.0 x inside diameter: 3.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 3.40 Tolerance mm : +- 0.05

Check tolerance mm

: + 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-2-4-5-3

: 0-72-144-216-288 Phasing

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 12.25 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 162.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s.

: +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance cm3/1000s.

7.5

Del. quantity	+ Check tolerance
cm3/1000 strokes : 13.5	+ cm3/1000s. : + 4.0
Tolerance	+ Spreed
cm3/1000 strokes : +- 2.5	+ Tolerance
Spreed	+ cm3/1000 strokes : 4.0
Tolerance	+ Check tolerance
cm3/1000 strokes : 4.5	+ cm3/1000s. : 7.5
Check tolerance	†
cm3/1000s. : 7.5	†
	CONTROL LEVER
(B) SETTING OF INJECTION PUMP	I CONTROL LEVER
WITH GOVERNOR	T control lever
ATIII GOAFIIIOI	position degree : 34.0
	+ tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	1
	+ control lever
Rated speed rpm : 300	+ position degree : 96.0
guide sleeve	+ tolerance degree : +- 4.0
travel mm : 2.40	+
Tolerance mm : +- 0.20	+ RATED SPEED
	+
Rated speed rpm : 1100	+ rack travel mm : 11.20
guide sleeve	+ Rated speed rpm : 1103
travel mm : 6.85	+ Tolerance 1/min : + 8
Tolerance mm : + 0.25	
Detect enced mm	+ rack travel mm : 4.00 + Rated speed rpm : 1165
Rated speed rpm : 600	
guide sleeve travel mm : 6.00	Tolerance 1/min : +- 15
Tolerance mm : + 0.10	Track travel mm : 0.50
foretatice likit	Tolerance mm : +- 0.50
Rated speed rpm : 900	Rated speed rpm : 1300
guide sleeve	Traced operation to too
travel mm : 6.20	+
Tolerance mm : + 0.10	
	+ LOW IDLE
Rated speed rpm : 1170	+
guide sleeve	+
travel mm : 9.75	+ control lever
Tolerance mm : + 0.25	+ position degree : 75.0
	tolerance degree : +- 4.0
CUIDE OF EEUE DOCUTION	T control lover
GUIDE SLEEVE POSITION	control lever position degree : 13.0
Rated speed rpm : 600	tolerance degree : + 4.0
Rated Speed rpm : 000	T toterance degree . += 4.0
Rack travel in mm : 20.00	Testing:
Tolerance mm : + 0.80	, coemig.
TO COT WITH THE TOTAL THE	+ Rated speed rpm : 300
	+ rack travel mm : 6.50
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
	7
Rated speed rpm : 1050	+ rack travel mm : 2.00
Aneroid pressure	Rated speed rpm : 395
hPa : 700	Tolerance 1/min : +- 20
Del. quantity	†
cm3/1000 strokes : 162.0	Rated speed rpm : 100
Tolerance	T 007 0.50
cm3/1000 strokes : + 1.0	+ CRT mm min. : > 8.50

		+ Aneroid pressure
TORQUE CONTRÓL	······································	+ hPa : 700 + Rated speed rpm : 600
Rated speed rpm		+ Del. quantity + cm3/1000 strokes : 179.0
rack travel mm Tolerance mm		Tolerance cm3/1000 strokes : +- 2.0
Rated speed rpm	: 600	+ Check tolerance + cm3/1000s. : + 5.0
rack travel mm Tolerance mm	: 13.15 : + 0.05	Aneroid pressure hPa : 700
Rated speed rpm rack travel mm		Rated speed rpm : 900 Del. quantity
Tolerance mm		cm3/1000 strokes : 176.0
ANEROID/ALTITUDE		cm3/1000 strokes : + 2.0 + Check tolerance
COMPENSATOR TEST		+ cm3/1000s. : +- 5.0
SETTING		Aneroid pressure hPa : -
Rated speed rpm		Rated speed rpm : 500 bel. quantity
Pressure hPa rack travel mm	: 700 : 13.15	cm3/1000 strokes : 114.0 + Tolerance
Tolerance mm	: +- 0.05	cm3/1000 strokes : +- 1.0 Check tolerance
MEASUREMENT		cm3/1000s. : +- 4.0
Pressure hPa Rated speed rpm	: - : 500	BREAKAWAY
rack travel mm Tolerance mm		
Rated speed rpm		Rack travel in mm : 11.20 Rated speed rpm : 1103
Pressure hPa	: 250	Tolerance 1/min : + 8
rack travel mm Tolerance mm	: 11.20 : + 0.10	
		STARTING FUEL DELIVERY
Pressure hPa rack travel mm		Rated speed rpm : 100
Tolerance mm	: +- 0.05	rack travel mm : 13.80 Tolerance mm : + 0.50
START CUT-OUT		Del. quantity cm3/1000 strokes : 160.0 Tolerance
Rated speed rpm Rated speed rpm		cm3/1000 strokes : + 10.0
Check		‡
speed 1/min Check	: > 90	LOW IDLE
	: < 270	+
speed 1/min		+ get. quantity
speed 1/min	ADACTEDICTICS	Del. quantity cm3/1000 strokes : 13.5 Tolerance

Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. : 4.5

7.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 16.04.96 Edition Test oil : ISO 4113

Combination No. : 9 400 087 449

Injection pump

Pump designation: PES6P120A320/3RS3264

EP type number : 9 400 087 075

Governor

Governer design. : RQV350...1100PA973

Governer no. : 9 420 080 293

Cust. part No. : 3354438

Customer-spec. information

Customer : CUMMINS

: 6 CTAA - 8.3 L Motor

Power KW : 216.6

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 3.50 : +- 0.05 Tolerance mm Check

: + 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 11.85 : + 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 204.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : + 4.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s.

: 9.0

1	0
Dal mumbah.	Spreed
Del. quantity cm3/1000 strokes : 9.5	· Tolerance · cm3/1000 strokes : 5.0
cm3/1000 strokes : 9.5	
cm3/1000 strokes : +- 3.0	· Check tolerance · cm3/1000s. : 9.0
Check tolerance	· CIRS/ 10005
cm3/1000s. : + 6.0	
Spreed	
Tolerance	CONTROL LEVER
cm3/1000 strokes : 8.0	CONTROL LEVER
Check tolerance	control lever
cm3/1000s. : 12.0	position degree : 55.0
1,210	tolerance degree : +- 4.0
4	
(B) SETTING OF INJECTION PUMP	control lever
WITH GOVERNOR	position degree : 111.0
}	tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	RATED SPEED
+	
Rated speed rpm : 1150 +	rack travel mm : 10.80
guide sleeve	Rated speed rpm : 1165
travel mm : 7.05 +	Tolerance 1/min : +- 5
Tolerance mm : +- 0.05	
· · · · · · · · · · · · · · · · · · ·	rack travel mm : 4.00
Rated speed rpm : 1400 +	Rated speed rpm : 1345
guide sleeve +	Tolerance 1/min : +- 15
travel mm : 9.00 +	
Tolerance mm : +- 0.20 +	rack travel mm : 0.50
—	Tolerance mm : +- 0.50
Rated speed rpm : 350 +	Rated speed rpm : 1500
guide sleeve	
travel mm : 1.60	
Tolerance mm : + 0.20	LOUITRE
Dated and days (50	LOW IDLE
Rated speed rpm : 650	
guide sleeve + travel mm : 4.50 +	control lever
travel mm : 4.50 + Tolerance mm : + 0.20 +	position degree : 70.0
Toterarice inii : += 0.20	tolerance degree : +- 4.0
	toterance degree . +- 4.0
GUIDE SLEEVE POSITION	control lever
	position degree : 15.0
Rated speed rpm : 1325	tolerance degree : + 4.0
Traced Speed (pill 1 1525	occiding dograd
Rack travel in mm: 16.50	Testing:
Tolerance mm : + 1.30 +	
+	Rated speed rpm : 350
	rack travel mm : 6.00
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
+	
Rated speed rpm : 1100 +	Rated speed rpm : 100
Aneroid pressure +	
hPa : 1300 +	CRT mm min. $:>8.00$
Del. quantity +	F
cm3/1000 strokes : 204.5 +	Rated speed rpm : 500
Tolerance	
cm3/1000 strokes : + 1.0 +	
Check tolerance	TORQUE CONTROL
cm3/1000s. : + 4.0 +	

Rated speed rpm rack travel mm Tolerance mm	: 1100 - : 11.85 - : +- 0.05 -	Tolerance cm3/1000 strokes : 6.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 700 : 11.85 : +- 0.05	cm3/1000s. : 12.0 Aneroid pressure hPa : - Rated speed rpm : 500
ANEROID/ALTITUDE COMPENSATOR TEST		Del. quantity cm3/1000 strokes : 117.5 Toleran e cm3/100.1 strokes : +- 1.5 Check tolerance
SETTING		- cm3/1000s. : + 4.5
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 11.85	BREAKAWAY
MEASUREMENT		Rack travel in mm : 10.80 Rated speed rpm : 1165 Tolerance 1/min : +- 5
Pressure hPa Rated speed rpm	: 500	- Toterance Traint
Rated speed rpm	: 500	STARTING FUEL DELIVERY
Pressure hPa rack travel mm Tolerance mm	: 880 : 2.25 : + 0.15	Rated speed rpm : 100 - rack travel mm : 20.00 - Tolerance mm : + 1.00 - Del. quantity
Pressure hPa rack travel mm Tolerance mm	: 0.70	- cm3/1000 strokes : 275.0 - Tolerance - cm3/1000 strokes : + 15.0 - Check tolerance - cm3/1000s. : + 19.0
START CUT-OUT		- CM3/10005. : +- 19.0
Rated speed rpm Rated speed rpm		- LOW IDLE
Check speed 1/min Check	: > 80	Del. quantity cm3/1000 strokes : 9.5
speed 1/min	: < 310	- Tolerance - cm3/1000 strokes : +- 3.0 - Check tolerance
FUEL DELIVERY CHA	RACTERISTICS	- cm3/1000s. : +- 6.0 - Spreed
Aneroid pressure hPa Rated speed rpm	: 1300 : 700	Tolerance - cm3/1000 strokes : 8.0 - Check tolerance
Del. quantity om3/1000 strokes Tolerance	1	- cm3/1000s. : 12.0
cm3/1000 strokes Check tolerance	+	- - -
cm3/1000S. Spreed	: +- 5.0	End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.04.96 Test oil : ISO 4113

Combination No. : 9 400 087 459AA

Injection pump

Pump designation : PES6P120A720LS7181 EP type number : 0 412 726 824

Governor

Governer design. : RQ300/1050PA911-2 Governer no. : 9 420 080 313

Cust. part No. :

Customer-spec. information Customer : MBB Motor : OM447 LA : 298.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 Tolerance bar

Test Lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 5.05 : +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

: 6-2-4-1-5-Firing order

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 12.40 Tolerance mm : \leftarrow 0.10

Del. quantity

cm3/1000 strokes : 195.5

Tolerance cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000S. : 9.0	
	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 300	- Rated speed rpm : 600
Rack travel in mm: 6.00 + Tolerance mm: + 0.20	- Aneroid pressure - hPa : 1050
Del. quantity	- Del. quantity
cm3/1000 strokes : 15.0 -	- cm3/1000 strokes : 195.5 - Tolerance
cm3/1000 strokes : + 3.0 - Check tolerance	cm3/1000 strokes : +- 1.0 Check tolerance
cm $3/1000$ s. : + 6.0	cm3/1000s. : +- 4.0
Spreed Tolerance	- Spreed - Tolerance
cm3/1000 strokes : 8.0 + Check tolerance	- cm3/1000 strokes : 5.0 - Check tolerance
cm3/1000s. : 12.0	- cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP	-
WITH GOVERNOR	CONTROL LEVER
	control lever
GUIDE SLEEVE TRAVEL	- position degree : 40.0 - tolerance degree : +- 4.0
Rated speed rpm : 300 + guide sleeve +	- control lever
travel mm : 1.75	- position degree : 101.0
Tolerance mm : \leftarrow 0.25	tolerance degree : +- 4.0
Rated speed rpm : 1120 guide sleeve	- RATED SPEED
travel mm : 7.45	rack travel mm : 11.30
Tolerance mm : + 0.25	- Rated speed rpm : 1103 - Tolerance 1/min : +- 8
Rated speed rpm : 600	-
guide sleeve + travel mm : 6.00 +	- rack travel mm : 4.00 - Rated speed rpm : 1145
Tolerance mm : + 0.10	Tolerance 1/min : + 15
Rated speed rpm : 1050 guide sleeve	rack travel mm : 0.75 Tolerance mm : + 0.75 Rated speed rpm : 1300
travel mm : 6.50	Rated speed rpm : 1300
Tolerance mm : + 0.10	
Rated speed rpm : 1160 guide sleeve	- LOW IDLE
travel mm : 10.00 +	
Tolerance mm : + 0.30	control lever
	position degree : 74.0
GUIDE SLEEVE POSITION	tolerance degree : +- 4.0
Rated speed rpm : 600	control lever position degree : 11.0
Rack travel in mm : 20.00	tolerance degree : +- 4.0
Tolerance mm : + 0.80	Testing:

Rated speed rpm	: 300	+	Del. quantity		
rack travel mm Tolerance mm	: 6.00	+	cm3/1000 strokes	: 195.0	
Tolerance mm	: +- 0.10	+	Tolerance		
	0.00	+	cm3/1000 strokes	: +- 2.0	
rack travel mm		†	Check tolerance	. 5.0	
Rated speed rpm		†	cm3/1000s.	: +- 5.0	
Tolerance 1/min	: + 20	†	Spreed		
Ontrol consel non	. 100	†	Tolerance	. 00	
Rated speed rpm	: 100	†	cm3/1000 strokes Check tolerance	: 8.0	
CRT mm min.	; > 9.00	Ī	cm3/1000s.	: 12.0	
CICE HARE BELLE.	, > 9.00	I	CIIDA (ODOS.	12.0	
			Aneroid pressure		
TORQUE CONTROL		1	hPa	: 1200	
		1	Rated speed rpm		
Rated speed rpm	: 600	1	Del. quantity		
rack travel mm	: 12.40	1	cm3/1000 strokes	: 198.5	
Tolerance mm	: +- 0.10	+	Tolerance		
		+	cm3/1000 strokes	: +- 2.0	
Rated speed rpm	: 1050	+	Check tolerance		
rack travel mm	: 12.40	+	cm3/1000s.	: + 5.0	
Tolerance mm		+++++++++++++++++++++++++++++++++++++	Spreed		
		+	Tolerance		
Rated speed rpm	: 750	+	cm3/1000 strokes	: 8.0	
rack travel mm	: 12.40	+	Check tolerance		
Tolerance mm	: +- 0.10	+	cm3/1000s.	: 12.0	
		+			
			Aneroid pressure		
ANEROID/ALTITUDE		†	hPa	: -	
COMPENSATOR TEST		†	Rated speed rpm	: 500	
		†	Del. quantity	405.0	
		†	cm3/1000 strokes	: 125.0	
AND A CLUD PAREAUT		†	Tolerance cm3/1000 strokes	10	
MEASUREMENT		T	Check tolerance	: +- 1.0	
Pressure hPa	: 300	Ţ	cm3/1000s.	; +- 4.0	
rack travel mm		I	Spreed	4.0	
Tolerance mm		I	Tolerance		
TOTAL GITTE THE	. , 0.10	I	cm3/1000 strokes	: 5.0	
Pressure hPa	: 400		Check tolerance		
rack travel mm	-0.90	1		: 9.0	
Tolerance mm	: +- 0.10	1			
		1			
			BREAKAWAY		
START CUT-OUT		+			
	4.5.5	+			
Rated speed rpm	: > 100	+	Rack travel in mm		
Rated speed rpm	: < 220	+	Rated speed rpm	: 1703	
Ole a who		†	Tolerance 1/min	: + &	
Check	on	†			
speed 1/min	: > 80	†			
Check speed 1/min	. < 2/.0	1	STARTING FUEL DEL	TVEDY	
specu (/m///	. \ 240	I	DIMITING LOST DET	T A *L/ L	
		<u>I</u>	Rated speed rpm	: 100	
FUEL DELIVERY CHA	RACTERISTICS	1	Del. quantity	- 100	
. The Population Conf.		1	cm3/1000 strokes	: 275.0	
Aneroid pressure		1	Tolerance	_ . _ .	
hPa	: 1200	1	cm3/1000 strokes	: +- 10.0	
Rated speed rpm		+			
•		•			

M03

Check tolerance		
cm3/1000s.	: +-	14.0

LOW IDLE

Rated speed rpm rack travel mm Tolerance mm	: +	300 6.00 0.20	
Del. quantity cm3/1000 strokes	:	15.0	
Tolerance cm3/1000 strokes	: +-	3.0	
Check tolerance cm3/1000s.	: +-	6.0	
Spreed Tolerance			
cm3/1000 strokes Check tolerance	:	8.0	
cm3/1000s.	:	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.04.96 Test oil : ISO 4113

Combination No. : 9 400 087 459AB

Injection pump

Pump designation : PES6P120A720LS7181 EP type number : 0 412 726 824

Governor

Governer design. : RQ300/1050PA911-2 : 9 420 080 313 Governer no.

Cust. part No. :

Customer-spec. information Customer : MBB : 0M447 LA Motor Power KW : 298.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 har : + 1.5 Tolerance bar

Test Lines : 1 680 750 067

Outside diameter : 6.0 x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.05 : +- 0.05 Tolerance mm Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

: 6-2-4-1-5-Firing order : 3

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

600 Rated speed rpm :

Rack travel in mm: 13.70 : +- 0.10 Tolerance mm

Del. quantity cm3/1000 strokes : 232.0

Tolerance cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s.	: 9.0	Aneroid pressure hPa Del. quantity	: 800
Del. quantity cm3/1000 strokes	: 15.0	cm3/1000 strokes Tolerance	
Tolerance cm3/1000 strokes	: + 3.0	+ cm3/1000 strokes - Check tolerance	
Check tolerance cm3/1000s.	: +- 6.0	- cm3/1000s. - Spreed	: +- 4.0
Spreed Tolerance		Tolerance cm3/1000 strokes	: 5.0
cm3/1000 strokes Check tolerance		Check tolerance cm3/1000s.	
cm3/1000s.	: 12.0	1	
(B) SETTING OF IN	JECTION PUMP	CONTROL LEVER	
		control lever	. 7/. 0
GUIDE SLEEVE TRAV	EL	position degree tolerance degree	: +- 4.0
Rated speed rpm guide sleeve	: 300	control lever position degree	: 94.0
travel mm Tolerance mm	: 1.75 : +- 0.25	tolerance degree	
Rated speed rpm	: 1120	+ RATED SPEED	
guide sleeve travel mm	: 7.45	rack travel mm Rated speed rpm	: 12.70
Tolerance mm		Tolerance 1/min	: +- 8
Rated speed rpm guide sleeve	: 600	rack travel mm Rated speed rpm	
travel mm Tolerance mm	: 6.00 : + 0.10	Tolerance 1/min	
Rated speed rpm		rack travel mm Tolerance mm	: +- 0.75
guide sleeve travel mm	: 6.50	Rated speed rpm	: 1300
Tolerance mm	: + 0.10	Ŧ	
Rated speed rpm	: 1160	LOW IDLE	
guide sleeve travel mm Tolerance mm	: 10.00 : + 0.30	control lever	: 75.0
GUIDE SLEEVE POSI	TION	tolerance degree	: +- 4.0
Rated speed rpm		control lever position degree	: 14.0
		tolerance degree	· + 4.0
Rack travel in mm Tolerance mm	: +- 0.80	Testing:	
#111 (1 AAA AMI #1,	V AT FIRE LAAD OTOD	Rated speed rpm	: 300
	Y AT FULL LOAD STOP	Rated speed rpm rack travel mm Tolerance mm	: +- 0.20
Rated speed rpm	: 000	rack travel mm	: 2.00

Rated speed rpm	. 700	1	Dol gupatity	
Tolerance 1/min		I	Del. quantity cm3/1000 strokes	: 224.0
, 4 4 5 1 al 1 al 1 al 1 al 1 al 1 al 1 al 1		1	Tolerance	. 55,175
**************************************			cm3/1000 strokes	: +- 2.0
TORQUE CONTROL		+	Check tolerance	
Data tana dana	(00	†	cm3/1000s.	: +- 5.0
Rated speed rpm		†	Spreed	
rack travel mm Tolerance mm		Ť	Tolerance cm3/1000 strokes	: 8.0
locerance ma	0.10	I	Check tolerance	. 0.0
Rated speed rpm	: 1050	I	cm3/1000s.	: 12.0
rack travel mm	13.70	1		1 00 0 0
rack travel mm Tolerance mm	: +- 0.10	+	Aneroid pressure	
		+	hPa	: 1500
Rated speed rpm	: 800	+	Rated speed rpm	: 800
rack travel mm		+	Del. quantity	
Tolerance mm	: +- 0.10	+	cm3/1000 strokes	: 239.0
		†	Tolerance	
ANEDOTO (AL TITLINE		+	cm3/1000 strokes	: +- 1.5
ANEROID/ALTITUDE COMPENSATOR TEST			Check tolerance cm3/1000s.	: +- 4.5
COMPENSATOR (ES)		I	Spreed	4.5
		I	Tolerance	
			cm3/1000 strokes	: 8.0
MEASUREMENT		1	Check tolerance	
		1	cm3/1000s.	: 12.0
Pressure hPa	: 300	+		
rack travel mm	: -2.30	+	Aneroid pressure	
Tolerance mm	: ← 0.10	+	hPa	•
		+	Rated speed rpm	: 500
Pressure hPa	: 600	+	Del. quantity	415.0
rack travel mm	: -0.40	†	cm3/1000 strokes	: 145.0
Tolerance mm	: +- 0.10	†	Tolerance cm3/1000 strokes	: +- 1.0
Pressure hPa	: 1000	I	Check tolerance	1.0
rack travel mm	: 0.15	I	cm3/1000s.	: +- 4.0
Tolerance mm		1	Spreed	(13
		1	Tolerance	
Pressure hPa	: 1100	+	cm3/1000 strokes	: 8.0
rack travel mm	: 0.40	+	Check tolerance	
Tolerance mm	: ← 0.10	+	cm3/1000s.	: 12.0
		†		
START CUT-OUT			BREAKAWAY	
		+		
Rated speed rpm		+		40.00
Rated speed rpm	: < 220	+	Rack travel in mm	
m 1 1		†	Rated speed rpm	
Check	. > 00	+	Tolerance 1/min	: +- 8
speed 1/min	: > 80	†		
Check speed 1/min	: < 240	İ		
speed Hall		Į	STARTING FUEL DEL	IVERY
PIPE API TURNU 011	DACTEDIOTICS	+	Dahad anaad ass	. 100
FUEL DELIVERY CHA	ARACTERISTICS	†	Rated speed rpm Del. quantity	: 100
Ananoid propours		<u> </u>	cm3/1000 strokes	: 275.0
Aneroid pressure hPa	: 1500	I	Tolerance	. 617.0
Rated speed rpm		I	cm3/1000 strokes	: + 10.0
Ruceu apeeu i piii	• • • • • • • • • • • • • • • • • • • •	T .	Chief 1000 octores	10.0

Check tolerance		
cm3/1000s.	: +-	14.0

LOW IDLE

Del. quantity			
cm3/1000 strokes	:	15.0	
Tolerance			
cm3/1000 strokes	: +-	3.0	
Check tolerance			
cm3/1000s.	: +-	6.0	
Spreed			
Tolerance			
cm3/1000 strokes	:	8.0	
Check tolerance			
cm3/1000s.	:	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.04.96 Test oil : ISO 4113

Combination No. : 9 400 087 471

Injection pump

Pump designation : PE6P12OA32ORS3178 EP type number : O 411 826 752

Governor

Governer design. : RQV250...950PA921-3

Governer no. : 0 421 813 786

Cust. part No. : 8125313-P02

Customer-spec. information

Customer : VOLVO-TRUCK
Motor : TD 122 F
Power KW : 261.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.65
Tolerance mm : +- 0.05
Check
tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.05 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 230.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s. : 9.0

Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: + 3.0 : + 6.0	Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 1.0 : +- 4.0
(B) SETTING OF IN WITH GOVERNOR	JJECTION PUMP	CONTROL LEVER control lever	44.0
GUIDE SLEEVE TRAV	/EL	position degree tolerance degree	
Rated speed rpm guide sleeve travel mm Tolerance mm	: 250 : 1.20 : + 0.20	control lever position degree tolerance degree	
Rated speed rpm guide sleeve	: 985	RATED SPEED rack travel mm	: 12.00
travel mm Tolerance mm	: 8.20 : + 0.10	Rated speed rpm Tolerance 1/min	
Rated speed rpm guide sleeve travel mm Tolerance mm	: 450 : 3.90 : + 0.30	rack travel mm Rated speed rpm Tolerance 1/min	: 1075
Rated speed rpm guide sleeve	: 700	rack travel mm Tolerance mm Rated speed rpm	: 0.50 : + 0.50 : 1200
travel mm Tolerance mm	: 6.50 : + 0.20	<u> </u>	
Rated speed rpm guide sleeve		LOW IDLE	
travel mm Tolerance mm	: 9.60 : + 0.20	control lever position degree tolerance degree	
GUIDE SLEEVE POST	TION	control lever	
Rated speed rpm	: 1030	position degree tolerance degree	
Rack travel in mm Tolerance mm		+ Testing:	
FULL LOAD DELIVER	Y AT FULL LOAD STOP	Rated speed rpm rack travel mm Tolerance mm	: 250 : 4.70 : + 0.10
Rated speed rpm Aneroid pressure hPa	: 700 - : 900 -	Rated speed rpm	: 100
*# u	-	CRT mm min.	: > 6.20

315 Rated speed rpm : TORQUE CONTROL Rated speed rpm 700 13.05 rack travel mm : + - 0.05Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm 500 900 Pressure hPa 13.05 rack travel mm Tolerance mm : + 0.05**MEASUREMENT** Pressure hPa 500 Rated speed rpm Rated speed rpm 500 : 600 Pressure hPa : 2.50 rack travel mm : + 0.10 Tolerance mm 120 Pressure hPa 0.35rack travel mm : +- 0.05 Tolerance mm FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa Rated speed rpm 700 Del. quantity

cm3/1000 strokes : 164.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. : +-4.0

BREAKAWAY

12.00 Rack travel in mm : Rated speed rpm : Tolerance 1/min : +-

STARTING FUEL DELIVERY

100 Rated speed rpm rack travel mm 20.50 : +- 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : +- 10.0Check tolerance cm3/1000s. : +- 14.0

LOW IDLE

Del. quantity cm3/1000 strokes : 20.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 18,04,96 : ISO 4113

Combination No. : 9 400 087 478

Injection pump

Pump designation : PES6P120A720RS3256

: -2

EP type number

: 9 400 087 080

Governor

Governer design. : RQV350...1300PA1080

Governer no.

: 9 420 080 339

Cust. part No. :

Customer-spec. information

Customer

: MBB

Motor

: OM 366 LA

Power KW

: 139.8

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve

: 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

bar

208.5

Tolerance bar

: +- 1.5

Test lines

: 1 680 750 075

Outside diameter : 8.0

M12

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm

3.05

Tolerance mm

: + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 20.50

Tolerance mm : +- 0.50

Firing order

: 1-5-3-6-2-

Phasing

: 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 5.10

Tolerance mm

: +- 0.30

Del. quantity cm3/1000 strokes :

Tolerance

18.5

cm3/1000 strokes : +-

1.5

Check tolerance cm3/1000s.

: +- 4.5

Spreed

Tolerance

cm3/1000 strokes :

2.0

Check tolerance

cm3/1000s.

3.0

Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 3.0 : +- 6.0	Del. quantity cm3/1000 strokes : 18.5 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 4.5 Spreed Tolerance cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. : 3.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	CONTROL LEVER control lever
GUIDE SLEEVE TRAV	/EL +	position degree : 112.0 tolerance degree : +- 4.0
Rated speed rpm guide sleeve	: 1350	RATED SPEED
travel mm Tolerance mm	+	rack travel mm : 9.70 Rated speed rpm : 1345 Tolerance 1/min : +- 5
Rated speed rpm guide sleeve travel mm Tolerance mm	: 1100 : 6.45 : +- 0.25	rack travel mm : 4.00 Rated speed rpm : 1440 Tolerance 1/min : +- 15
Rated speed rpm guide sleeve travel mm Tolerance mm	: 350 : 1.25 : + 0.25	rack travel mm : 0.50 Tolerance mm : + 0.50 Rated speed rpm : 1550
Rated speed rpm guide sleeve travel mm Tolerance mm	: 650 : 4.15 : +- 0.25	LOW IDLE
Rated speed rpm guide sleeve travel mm Tolerance mm	+	<pre>control lever position degree : 80.0 tolerance degree : + 4.0 Testing:</pre>
	0.25	Rated speed rpm : 350
GUIDE SLEEVE POSI	+	rack travel mm : 7.65 Tolerance mm : +- 0.15
Rated speed rpm	+	Rated speed rpm : 250
Rack travel in mm Tolerance mm		CRT mm min. :> 9.50
FULL LOAD DELIVER	Y AT FULL LOAD STOP	Rated speed rpm : 375
Rated speed rpm Aneroid pressure	: 1000	TORQUE CONTROL
hPa	: - ‡	Rated speed rpm : 1000 rack travel mm : 5.10

Tolerance mm	: +- 0.30		Spreed	
5. 3 3. 	4700		Tolerance	. 0.0
Rated speed rpm			cm3/1000 strokes	: 8.0
rack travel mm Tolerance mm			Check tolerance cm3/1000s.	: 12.0
locerance imi	; +- 0,10	T '	CIIIS/ 10008.	: 12.0
Rated speed rpm	: 800	I ,	Aneroid pressure	
rack travel mm			hPa	: 1200
Tolerance mm			Rated speed rpm	
1966. 41166			Del. quantity	. 000
····			cm3/1000 strokes	: 119.0
ANEROID/ALTITUDE		+ 1	Tolerance	
COMPENSATOR TEST			cm3/1000 strokes	: + 2.0
			Check tolerance	
			cm3/1000s.	: 5.0
SETTING			Spreed	
8-4-d			Tolerance	. 9.0
Rated speed rpm Pressure hPa	: 500 : 1200	•	cm3/1000 strokes Check tolerance	: 8.0
rack travel mm			cm3/1000s.	: 12.0
Tolerance mm	: +- 0.10	Γ	UND/ 10005.	. 12.0
TOCCI OFFICE THE		1 A	Aneroid pressure	
MEASUREMENT			hPa	: -
		 	Rated speed rpm	: 500
Pressure hPa	: -		Del. quantity	
Rated speed rpm	: 500	•	cm3/1000 strokes	: 70.0
	500		Tolerance	
Rated speed rpm	: 500		cm3/1000 strokes	: +- 1.0
Descripe hDs	: 340		Check tolerance	; + 4.0
Pressure hPa rack travel mm	: 0.95		Spreed	4.0
Tolerance mm	: +- 0.15		Folerance	
TOTOL WITHOUT WAIT			cm3/1000 strokes	: 8.0
Pressure hPa	: 250		Check tolerance	
rack travel mm	: 0.60	+ c	cm3/1000s.	: 12.0
Tolerance mm	: +- 0.10	+		
		+ -		
07407 017 017		† B	BREAKAWAY	
START CUT-OUT		†		
Rated speed rpm	: > 100	Ī p	Rack travel in mm	: 9.70
Rated speed rpm	: < 270	•	Rated speed rpm	: 1345
Marca Speca (pill			Tolerance 1/min	: +- 5
Check		+		
speed 1/min	: > 80	+		
Check		+ -		
speed 1/min	: < 290	† S	STARTING FUEL DELI	IVERY
		I D	Rated speed rpm	: 100
FUEL DELIVERY CHA	PACTERISTICS		Del. quantity	. 100
IOCC DECTACK! CHU	WACI ENTO I TOO			: 100.0
Aneroid pressure			olerance	
hPa	: 1200		m3/1000 strokes	: +- 10.0
Rated speed rpm	: 1300		heck tolerance	
Del. quantity		+ c	:m3/1000s.	: +- 14.0
cm3/1000 strokes	: 141.0	†		
Tolerance	: +- 1.0	†		
cm3/1000 strokes Check tolerance	: +- 1.0	Ī _		
cm3/1000s.	: +- 4.0	I	OW IDLE	
unior raddo.	7.0	1 -	· · · · · · · · · · · · · · · · · · ·	

Del. quantity		
cm3/1000 strokes	:	17.0
Tolerance		
cm3/1000 strokes	: +-	3.0
Check tolerance		
cm3/1000s.	; +-	6.0
Spreed		
Tolerance		
cm3/1000 strokes	;	8.0
Check tolerance		
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 18.04.96 : ISO 4113

Combination No. : 9 400 087 487

Injection pump

Pump designation : PES6P120A720LS7176

: -10

EP type number

: 0 412 726 869

Governor

Governer design. : RQV300...1050PA1142

: 9 420 080 368 Governer no.

Cust. part No. :

Customer-spec. information

Customer

: MBB

Motor

: 0M447 A

Power KW

: 210.0

TEST BENCH REQUIREMENTS

Inlet line

: 4.1

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar

: +- 1.5

Test Lines : 1 680 750 075

Outside diameter :

8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

: 6-2-4-1-5-Firing order

: 3

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm: 12.75

: + 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 177.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: **←** 4.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

M16

Check tolerance		+	Aneroid pressure	
cm3/1000S.	: 9.0	+	hPa	: 600
		+	Del. quantity	
Del. quantity		+	cm3/1000 strokes	: 177.0
cm3/1000 strokes	: 13.0	+	Tolerance	
Tolerance		+	cm3/1000 strokes	: +- 1.0
cm3/1000 strokes	: +- 3.0	1	Check tolerance	
Check tolerance		1	cm3/1000s.	: +- 4.0
cm3/1000s.	: ← 6.0	1	Spreed	,,,,
Spreed		1	Tolerance	
Tolerance		1	cm3/1000 strokes	: 5.0
cm3/1000 strokes	: 8.0	1	Check tolerance	. 5.0
Check tolerance		1	cm3/1000s.	: 9.0
cm3/1000s.	: 12.0	1	· · · · · · · · · · · · · · · · · · ·	. ,
CIIID7 100001		1		
		1		
(B) SETTING OF IN	LIECTION PUMP	1	CONTROL LEVER	
WITH GOVERNOR	1020, 20.7 7 0, 11	1	CONTINOE EEVEN	
WITH GOVERNOR		1	control lever	
		1	position degree	: 59.0
GUIDE SLEEVE TRAV	IEI	\mathbf{I}	tolerance degree	
GOIDE SEEEAE IKAN	(CL	Ι	toterante degree	. + 4.0
Rated speed rpm	: 300	I	control lever	
guide sleeve	. 500	T		: 114.0
travel mm	: 1.40	T	position degree	
	: +- 0.20	T	tolerance degree	: 4.0
Tolerance mm	: +- 0.20	Ť	DATES COLES	
Data award awa	: 1100	Ť	RATED SPEED	
Rated speed rpm	: 1100	†		42.00
guide sleeve	. 7.6	†	rack travel mm	: 12.00
travel mm	: 7.65	+	Rated speed rpm	: 1103
Tolerance mm	: +- 0.25	+	Tolerance 1/min	: +- 8
	500	†		
Rated speed rpm	: 500	+	rack travel mm	: 4.00
guide sleeve		+	Rated speed rpm	
travel mm	: 3.25	+	Tolerance 1/min	: +- 15
Tolerance mm	: +- 0.25	+		
		+	rack travel mm	: 0.75
Rated speed rpm	: 900	+	Tolerance mm	: +- 0.75
guide sleeve		+	Rated speed rpm	: 1300
travel mm	: 5.85	+		
Tolerance mm	: - 0.25	+		
		+		
Rated speed rpm	: 1210	+	LOW IDLE	
guide steeve		+		
travel mm	: 9.55	+		
Tolerance mm	: +- 0.25	+	control lever	
		+	position degree	
		+	tolerance degree	: +- 4.0
GUIDE SLEEVE POSI	TION	+		
		+	control lever	
Rated speed rpm	: 1140	+	position degree	: 13.0
,		+	tolerance degree	
Rack travel in mm		+	-	
Tolerance mm		+	Testing:	
		+	-	
		+	Rated speed rpm	: 300
FULL LOAD DELIVER	Y AT FULL LOAD STOP	+	rack travel mm	: 6.20
		+	Tolerance mm	: +- 0.20
Rated speed rpm	: 600	+		
		+	Rated speed rpm	: 100
		•	-1 lam	· • •

CRT mm min.	: > 8.00	+ Del. quantity + cm3/1000 strokes : 182.0
Dadad award mm	. 775	Tolerance
Rated speed rpm	: 375	cm3/1000 strokes : +- 2.0 + Check tolerance
TORQUE CONTROL		+ Spreed
Rated speed rpm	: 600	+ Tolerance + cm3/1000 strokes : 8.0
rack travel mm	: 12.75	Check tolerance
Tolerance mm	: + 0.05	+ cm3/1000s. : 12.0
Rated speed rpm	: 1050	Aneroid pressure
rack travel mm		+ hPa : 1000
Tolerance mm	: +- 0.05	+ Rated speed rpm : 750
Data dana ada man	. 750	+ Del. quantity
Rated speed rpm rack travel mm		+ cm3/1000 strokes : 186.5 + Tolerance
Tolerance mm		- cm3/1000 strokes : +- 2.0
2 2 2 2		+ Check tolerance
ALIEDAYA (AL TYTHIS		
ANEROID/ALTITUDE COMPENSATOR TEST		+ Spreed + Tolerance
COMPENSATOR TEST		+ cm3/1000 strokes : 8.0
		+ Check tolerance
		+ cm3/1000s. : 12.0
MEASUREMENT		Amonoid massaums
Pressure hPa	: 250	+ Aneroid pressure + hPa : -
rack travel mm	: -1.30	Rated speed rpm : 500
Tolerance mm	: ← 0.10	+ Del. quantity
D	. 700	+ cm3/1000 strokes : 132.0
Pressure hPa rack travel mm	: 380 : - 0.40	+ Tolerance + cm3/1000 strokes : +- 1.0
Tolerance mm	: +- 0.10	Check tolerance
		+ cm3/1000s. : +- 4.0
Pressure hPa	: 690	+ Spreed
Pressure hPa	: 770	+ Tolerance + cm3/1000 strokes : 5.0
rack travel mm	. 0.30	Check tolerance
Tolerance mm	: + 0.10	+ cm3/1000s. : 9.0
		†
START CUT-OUT		BREAKAWAY
Rated speed rpm	: > 100	İ
Rated speed rpm		Rack travel in mm: 12.00
	•	Rated speed rpm : 1103
Check	. 00	Tolerance 1/min : + 8
speed 1/min Check	: > 80	İ
speed 1/min	: < 240	
eperature of the state of the s		STARTING FUEL DELIVERY
FUEL DELIVERY CH	ADACTEDISTICS	Rated speed rpm : 100
LOEF DEFINER! (H)	MUMPIENTO ITUO	+ Rated Speed rpm : 100 + Del. quantity
Aneroid pressure		+ cm3/1000 strokes : 210.0
hPa	: 1000	+ Tolerance
Rated speed rpm	: 1050	+ cm3/1000 strokes : +- 10.0
		+

Check tolerance cm3/1000s. : +- 4.0

LOW IDLE

Del. quantity
cm3/1000 strokes : 13.0
Tolerance
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 6.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 17,04,96 Edition Test oil : ISO 4113

Combination No. : 9 400 087 493

Injection pump

Pump designation : PES6P120A720LS7114

: -13

EP type number : 0 412 726 867

Governor

Governer design. : RQ300/1050PA911-5

: 9 420 080 375 Governer no.

Cust. part No. : 0250747002

Customer-spec. information Customer : MBB : OM447 LA Motor Power KW : 230.0

TEST BENCH REQUIREMENTS

: 4.1 Inlet line

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

5.25 Prestroke mm : + 0.05Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 : +- 1.50 Tolerance mm

: 6-2-4-1-5-Firing order : 3

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 12.40 : + 0.10Tolerance mm

Del. quantity cm3/1000 strokes : 195.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed Tolerance

cm3/1000 strokes : 5.0

Check tolerance		1
cm3/1000s.	: 9.0	
	700	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm	: 300	T Rated speed rpm : 600
Rack travel in mm	6.00	+ Aneroid pressure
Tolerance mm	: +- 0.20	hPa : 1050
Del. quantity cm3/1000 strokes	: 13.5	+ Del. quantity + cm3/1000 strokes : 195.5
Tolerance	. ,3.3	Tolerance
cm3/1000 strokes	: + 3.0	+ cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s.	: +- 6.0	+ Check tolerance + cm3/1000s. : +- 4.0
Spreed		Spreed
Tolerance		+ Tolerance
cm3/1000 strokes Check tolerance	: 8.0	+ cm3/1000 strokes : 5.0 + Check tolerance
cm3/1000s.	: 12.0	+ cm3/1000s. : 9.0
		+
(B) SETTING OF IN	JECTION PHIMP	<u> </u>
WITH GOVERNOR	000,1014 1 0111	CONTROL LEVER
		†
GUIDE SLEEVE TRAV	FI	+ control lever + position degree : 40.0
		tolerance degree : + 4.0
Rated speed rpm	: 300	+
guide sleeve travel mm	: 2.95	<pre>control lever position degree : 101.0</pre>
Tolerance mm	: + 0.15	tolerance degree : + 4.0
Dated mused was	. 1400	DATES COLUMN
Rated speed rpm guide sleeve	: 1100	+ RATED SPEED
travel mm	: 6.70	rack travel mm : 11.30
Tolerance mm	: +- 0.20	+ Rated speed rpm : 1103 + Tolerance 1/min : +- 8
Rated speed rpm	: 600	+ Tolerance 1/min : +- 8
guide sleeve		+ rack travel mm : 4.00
travel mm	: 6.00 : - 0.10	+ Rated speed rpm : 1165 + Tolerance 1/min : + 15
Tolerance mm	: - 0.10	+ Toterance Printing : +- 15
Rated speed rpm	: 1000	rack travel mm : 0.75
guide sleeve travel mm	: 6.40	+ Tolerance mm : + 0.75 + Rated speed rpm : 1300
Tolerance mm	: +- 0.10	T have speed rail : 1500
~	a alman	+
Rated speed rpm guide sleeve	: 1175	+ LOW IDLE
travel mm	: 9.75	+
Tolerance mm	: +- 0.25	1
		+ control lever + position degree : 74.0
GUIDE SLEEVE POST	TION	tolerance degree : + 4.0
Makad amasal	. 400	t control lover
Rated speed rpm	: 600	<pre>+ control lever + position degree : 11.0</pre>
Rack travel in mm		tolerance degree : +- 4.0
Tolerance mm	: +- 0.80	+ Tanting.
		† Testing:

Rated speed rpm	: 300	+	Del. quantity		
rack travel mm Tolerance mm	: 6.00	1	cm3/1000 strokes	: 195.0	
Tolerance mm	: +- 0.10	1	Tolerance		
	• • • • • • • • • • • • • • • • • • • •	1	cm3/1000 strokes	: +- 2.0	
rack travel mm	: 2.00	1	Check tolerance		
Rated speed rpm		1	cm3/1000s.	: +- 5.0	
Tolerance 1/min		Ţ		. +- 5.0	
roterance i/min	; +- 20	Ť	Spreed		
	400	Ť	Tolerance	0.0	
Rated speed rpm	: 100	†	cm3/1000 strokes	: 8.0	
		†	Check tolerance		
CRT mm min.	: > 9.00	+	cm3/1000s.	: 12.0	
		+			
	~		Aneroid pressure		
TORQUE CONTROL		+	hPa	: 1200	
		+	Rated speed rpm	: 750	
Rated speed rpm	: 600	1	Del. quantity		
rack travel mm	12.40	1	cm3/1000 strokes	: 198.5	
rack travel mm Tolerance mm	: ← 0.10	<u> </u>	Tolerance		
to: willow tinii		1	cm3/1000 strokes	. +- 20	
Rated speed rpm	• 1050	I	Check tolerance		
naced speed (MIII	42 /0	T	cm3/1000s.	: +- 5.0	
rack travel mm	16.40 1 10 10	T		. +- 5.0	
Tolerance mm	: +- 0.10	† † † † † † † †	Spreed		
		†	Tolerance		
Rated speed rpm	: 750	+	cm3/1000 strokes	: 8.0	
rack travel mm Tolerance mm	: 12.40	+	Check tolerance		
Tolerance mm	: +- 0.10	+	cm3/1000S.	: 12.0	
		+			
		 +	Aneroid pressure		
ANEROID/ALTITUDE		+	hPa	: -	
COMPENSATOR TEST		1	Rated speed rpm	: 500	
oo. w Eltorition 1207		1	Del. quantity	. , ,	
		1.	cm3/1000 strokes	: 126.0	
		Ŧ	Tolerance	. 120.0	
MEACHDEMENT		<u>T</u>	cm3/1000 strokes	10	
MEASUREMENT		Ť		: +- 1.0	
	700	†	Check tolerance		
Pressure hPa		†	cm3/1000s.	: +- 4.0	
rack travel mm		+	Spreed		
Tolerance mm	: ← 0.10	+	Tolerance		
		+	cm3/1000 strokes		
Pressure hPa		+	Check tolerance		
rack travel mm		+		9.0	
Tolerance mm	: +- 0.10	1			
	-	1	**************************************	· · · · · · · · · · · · · · · · · · ·	
		_	BREAKAWAY		
START CUT-OUT		1			
		1			
Rated eneed nom	• > 100	1	Rack travel in mm	• 11 30	
Rated speed rpm Rated speed rpm	• < 220	\mathbf{I}	Rated speed rpm		
varen sheen Lhiji	. > 660	T	Tolerance 1/min		
Charl.		†	roterance common	0	
Check		†			
speed 1/min	: > 80	†			
Check		+			
speed 1/min	: < 240	+	STARTING FUEL DEL	IVERY	
		+			
		+	Rated speed rpm	: 100	
FUEL DELIVERY CHA	ARACTERISTICS	+	Del. quantity		
		+	cm3/1000 strokes	: 230.0	
Aneroid pressure		1	Tolerance		
hPa	: 1200	1	cm3/1000 strokes	: +- 10.0	
Rated speed rpm	1050	1	5		
varen sheen uhili	יטכטו	T			

Check tolerance		
cm3/1000S.	: +-	14.0

LOW IDLE

Rated speed rpm rack travel mm Tolerance mm	: : : +	300 6.00 - 0.20
Del. quantity cm3/1000 strokes	:	13.5
Tolerance cm3/1000 strokes	: +	- 3.0
Check tolerance cm3/1000s.	: +	- 6.0
Spreed Tolerance		
cm3/1000 strokes Check tolerance	:	8.0
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.04.96 Test oil : ISO 4113

Combination No. : 9 400 093 227

Injection pump

Pump designation : PES6A85D410RS2756 EP type number : 9 400 093 006

Governor

Governer design. : RSV325...1150A1C1168

: L

Governer no. : 9 420 083 293

Cust. part No. :

Customer-spec. information

Customer : DEUTZ-ARGENTINA

Motor : BF6L913 Power KW : 118.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values ____

BEGINNING OF DELIVERY

Test pressure bar : 32.0 Tolerance bar : + 1.0

Prestroke mm : 1.95
Tolerance mm : +- 0.05
Check

tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 11.35 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes :

73.0

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s. : \leftarrow 2.5

Spreed

Tolerance

cm3/1000 strokes :

3.0

Check tolerance

cm3/1000s. : 7.0

Del. quantity	
cm3/1000 strokes	: 11.0
Tolerance	
cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s.	: +- 4.0
Spreed	
Tolerance	. =
cm3/1000 strokes Check tolerance	: 4.5
cm3/1000s.	; 7.0
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP
GUIDE SLEEVE POSIT	LION
Rated speed rpm	: 800
Rack travel in mm Tolerance mm	: 0.65 : +- 0.35
governor spring	
pre-tension	
click setting x	: 5.00

FULL LOAD DELIVERY	
I ATT FOUR RETURNS	Y AT FULL LOAD STOP
Rated speed rpm	: 1150
Rated speed rpm Aneroid pressure hPa Del. quantity	: 1150
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: 1150
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance	: 1150 : - : 73.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes	: 1150 : - : 73.0 : + 0.5
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1150 : - : 73.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed	: 1150 : - : 73.0 : + 0.5
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance	: 1150 : − : 73.0 : ← 0.5 : ← 2.5
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 1150 : - : 73.0 : ← 0.5 : ← 2.5 : 3.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: 1150 : − : 73.0 : ← 0.5 : ← 2.5
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 1150 : - : 73.0 : ← 0.5 : ← 2.5 : 3.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1150 : - : 73.0 : ← 0.5 : ← 2.5 : 3.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: 1150 : - : 73.0 : ← 0.5 : ← 2.5 : 3.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1150 : - : 73.0 : ← 0.5 : ← 2.5 : 3.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1150 : - : 73.0 : + 0.5 : + 2.5 : 3.0 : 7.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1150 : - : 73.0 : + 0.5 : + 2.5 : 3.0 : 7.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. CONTROL LEVER control lever position degree tolerance degree	: 1150 : - : 73.0 : + 0.5 : + 2.5 : 3.0 : 7.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. CONTROL LEVER control lever position degree	: 1150 : - : 73.0 : + 0.5 : + 2.5 : 3.0 : 7.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. CONTROL LEVER control lever position degree tolerance degree RATED SPEED rack travel mm	: 1150 : - : 73.0 : + 0.5 : + 2.5 : 3.0 : 7.0 : 114.0 : + 4.0
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s. CONTROL LEVER control lever position degree tolerance degree RATED SPEED	: 1150 : - : 73.0 : + 0.5 : + 2.5 : 3.0 : 7.0 : 114.0 : + 4.0

Tolerance 1/min	: +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: 4.00 : 1235 : +- 15
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : +- 0.55 : 1380
LOW IDLE	
control lever position degree tolerance degree	: 77.0 : +- 4.0
Setting point w/	out bumper spring
Rated speed rpm rack travel mm	: 325 : 7.50
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 325 : 8.00 : +- 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 570 : +- 30
Rated speed rpm	: 100
CRT mam min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1150 : 11.35 : ← 0.05
Rated speed rpm rack travel mm Tolerance mm	: 500 : 13.05 : + 0.05
Rated speed rpm rack travel mm Tolerance mm	: 800 : 12.35 : ← 0.15

Aneroid pressure	
hPa Rated speed rpm	500
Del. quantity	
cm3/1000 strokes Tolerance	: 79.5
cm3/1000 strokes	: +- 1.5
Check tolerance cm3/1000s.	: + 3.5
Aneroid pressure	
hPa	: -
Rated speed rpm	800
Del. quantity cm3/1000 strokes	: 76.5
Tolerance cm3/1000 strokes	: +- 1.5
Check tolerance	
cm3/1000s.	: + 3.5
BREAKAWAY	
Rack travel in mm	
Rated speed rpm	: 1195
Tolerance 1/min	: +- 5
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
rack travel mm	: 20.00
Tolerance mm	: ← 1.00
LOW IDLE	
Del. quantity	
cm3/1000 strokes Tolerance	: 11.0
cm3/1000 strokes	: + 2.0
Check tolerance cm3/1000s.	: + 4.0
Spreed	
Tolerance cm3/1000 strokes	: 4.5
Check tolerance	
cm3/1000s.	: 7.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.04.96 Test oil : ISO 4113

Combination No. : 9 400 093 228

Injection pump

Pump designation : PES5A80D410RS2526 EP type number : 9 400 093 007

Governor

Governer design. : RSV325...1075A1C1167

: L

Governer no. : 9 420 083 292

Cust. part No. :

Customer—spec. information
Customer : DEUTZ ARG.
Motor : F5L913
Power KW : 87.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

REGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 1.95
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1-3-5-4-2

Phasing : 0-72-144-216-288

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm : 9.45
Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 53.0

Tolerance

cm3/1000 strokes : \leftarrow 0.5

Check tolerance

cm3/1000s. : +- 2.0

Spreed

Tolerance

cm3/1000 strokes :

2.5

Check tolerance cm3/1000s. : 4.0

Del. quantity + cm3/1000 strokes : 7.5	rack travel mm : 4.00
Tolerance + cm3/1000 strokes : + 1.5	Rated speed rpm : 1165 Tolerance 1/min : + 15
Check tolerance cm3/1000s. : +- 3.5	rack travel mm : 0.85
Spreed + Tolerance +	Tolerance mm : +- 0.55 Rated speed rpm : 1320
cm3/1000 strokes : 4.0 + Check tolerance cm3/1000s. : 6.0 + Check tolerance cm3/1000s.	
	FOM IDE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 84.0 tolerance degree : + 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 325 rack travel mm : 6.00
Rack travel in mm : 0.65 Tolerance mm : + 0.35	Testing:
governor spring + pre-tension +	Rated speed rpm : 325 rack travel mm : 6.50
click setting x : 6.80	Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 2.00 Rated speed rpm : 540 Tolerance 1/min : +- 30
Rated speed rpm : 1075 Aneroid pressure	Rated speed rpm : 100
hPa : - + Del. quantity	CRT mm min. : > 19.00
cm3/1000 strokes : 53.0 + Tolerance cm3/1000 strokes : + 0.5	TORQUE CONTROL
Check tolerance cm3/1000s. : + 2.0	Rated speed rpm : 1075
Spreed Tolerance	rack travel mm : 9.45 Tolerance mm : + 0.05
cm3/1000 strokes : 2.5 Check tolerance	Rated speed rpm : 500
cm3/1000s. : 4.0	rack travel mm : 11.25 Tolerance mm : + 0.05
CONTROL LEVER	Rated speed rpm : 800 rack travel mm : 10.55
control lever	Tolerance mm : + 0.15
position degree : 117.0 tolerance degree : + 4.0	
RATED SPEED	FUEL DELIVERY CHARACTERISTICS
rack travel mm : 8.40 Rated speed rpm : 1120 Tolerance 1/min : + 5	Aneroid pressure hPa : -

Rated speed rpm	: 500
Del. quantity cm3/1000 strokes	: 62.5
Tolerance	
cm3/1000 strokes Check tolerance	: +- 1.5
cm3/1000s.	: +- 3.0
Aneroid pressure	
hPa Rated speed rpm	: – : 800
Del. quantity	
cm3/1000 strokes Tolerance	: 58.0
cm3/1000 strokes	: +~ 1.5
Check tolerance cm3/1000s.	: ← 3.0
BREAKAWAY	
Rack travel in mm	: 8.40
lated speed rpm Tolerance 1/min	
olerance 1/min	: +- 5
TARTING FUEL DEL	IVERY
ated speed rpm	: 100
rack travel mm Folerance mm	: 20.00 : +- 1.00
ordination in in	. ,,,,,,
OW IDLE	
el. quantity	
el. quantity m3/1000 strokes	: 7.5
el. quantity m3/1000 strokes olerance m3/1000 strokes	
el. quantity m3/1000 strokes olerance m3/1000 strokes heck tolerance	
el. quantity m3/1000 strokes olerance m3/1000 strokes heck tolerance m3/1000s. preed	: +- 1.5
el. quantity m3/1000 strokes olerance m3/1000 strokes heck tolerance m3/1000s. preed olerance	: +- 1.5
el. quantity m3/1000 strokes olerance m3/1000 strokes heck tolerance m3/1000s. preed olerance m3/1000 strokes heck tolerance	: + 1.5 : + 3.5 : 4.0
OW IDLE rel. quantity m3/1000 strokes rolerance m3/1000 strokes heck tolerance m3/1000s. preed rolerance m3/1000 strokes heck tolerance m3/1000 strokes heck tolerance m3/1000 strokes	: +- 1.5 : +- 3.5
mel. quantity m3/1000 strokes olerance m3/1000 strokes heck tolerance m3/1000s. preed olerance m3/1000 strokes heck tolerance	: + 1.5 : + 3.5 : 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 24.04.96 Edition : ISO 4113 Test oil

Combination No. : 9 400 093 229

Injection pump

Pump designation : PES4A80D410RS2523 : 9 400 093 008 EP type number

Governor

Governer design. : RSV325...1075A1C1167

: 9 420 083 292 Governer no.

Cust. part No.

Customer-spec. information : DEUTZ ARG. Customer : F4L913 Motor Power KW 56.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

: 1 419 992 198 Overflow valve

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 : + 1.5 Tolerance bar

Test Lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter: 2.0 600 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : + 1.0

1.95 Prestroke mm Tolerance mm : +- 0.05 Check

tolerance mm : + - 0.10

Rack travel in mm : 10.50 : + 1.50Tolerance mm

Firing order : 1-3-4-2

Phasing : 0-90-180-270

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm: 10.25 : +- 0.05 Tolerance mm

Del. quantity cm3/1000 strokes :

Tolerance

cm3/1000 strokes : +-0.5

Check tolerance cm3/1000s.

2.0 : +--

Spreed

Tolerance

cm3/1000 strokes :

2.5

60.5

Check tolerance

cm3/1000s. : 4.0

Del. quantity cm3/1000 strokes : 7.5 Tolerance cm3/1000 strokes : + 1.5 Check tolerance cm3/1000s. : + 3.5 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 6.0	rack travel mm : 4.00 Rated speed rpm : 1175 Tolerance 1/min : + 15 rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1320
cm3/1000s. : 6.8	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 85.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 325 rack travel mm : 6.00
Rack travel in mm: 0.65 Tolerance mm: + 0.35	Testing:
governor spring pre-tension click setting x : 7.00	Rated speed rpm : 325 rack travel mm : 6.50 Tolerance mm : + 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 2.00 Rated speed rpm : 550 Tolerance 1/min : +- 30
Rated speed rpm : 1075 Aneroid pressure hPa : - + Del. quantity	Rated speed rpm : 100 CRT mm min. : > 19.00
cm3/1000 strokes : 60.5	ON THE STATE OF TH
cm3/1000 strokes : +- 0.5 Check tolerance	TORQUE CONTROL
cm3/1000s. : + 2.0 Spreed Tolerance	Rated speed rpm : 1075 rack travel mm : 10.25 TolePance mm : + 0.05
cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 4.0	Rated speed rpm : 500 rack travel mm : 11.05 Tolerance mm : + 0.05
CONTROL LEVER	Rated speed rpm : 750 rack travel mm : 10.65
control lever position degree : 119.0 tolerance degree : + 4.0	Tolerance mm : + 0.15
RATED SPEED	FUEL DELIVERY CHARACTERISTICS
rack travel mm : 9.20 Rated speed rpm : 1120 Tolerance 1/min : +- 5	Aneroid pressure

Rated speed rpm	: 500	
Del. quantity cm3/1000 strokes	: 61.0	
Tolerance cm3/1000 strokes	: +- 1.5	
Check tolerance cm3/1000s.	; ← 3.0	
Aneroid pressure		
hPa Rated speed rpm	: – : 750	
Del. quantity cm3/1000 strokes	: 59.0	
Tolerance cm3/1000 strokes	: ← 1.5	
Check tolerance cm3/1000s.	: +- 3.0	
BREAKAWAY		
Rack travel in mm	9.20	
Rated speed rpm Tolerance 1/min	: 1120 : +- 5	
STARTING FUEL DEL		
Rated speed rpm rack travel mm		
Rated speed rpm rack travel mm	: 100 : 20.00	
Rated speed rpm rack travel mm Tolerance mm	: 100 : 20.00	
Rated speed rpm rack travel mm Tolerance mm	: 100 : 20.00	
Rated speed rpm rack travel mm Tolerance mm LOW IDLE Del. quantity cm3/1000 strokes	: 100 : 20.00 : +- 1.00	
Rated speed rpm rack travel mm Tolerance mm LOW IDLE Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 100 : 20.00 : +- 1.00	-
Rated speed rpm rack travel mm Tolerance mm LOW IDLE Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 20.00 : +- 1.00	
Rated speed rpm rack travel mm Tolerance mm -OW IDLE Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Folerance	: 100 : 20.00 : + 1.00 : 7.5 : + 1.5 : + 3.5	
Rated speed rpm rack travel mm Folerance mm LOW IDLE Del. quantity cm3/1000 strokes Folerance cm3/1000s. Spreed Folerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Folerance cm3/1000 strokes Check tolerance	: 100 : 20.00 : + 1.00 : + 1.5 : + 3.5 : 4.0	
Rated speed rpm rack travel mm Folerance mm LOW IDLE Del. quantity cm3/1000 strokes Folerance cm3/1000s. Spreed Folerance cm3/1000s.	: 100 : 20.00 : + 1.00 : 7.5 : + 1.5 : + 3.5	
Rated speed rpm rack travel mm Folerance mm LOW IDLE Del. quantity cm3/1000 strokes Folerance cm3/1000s. Spreed Folerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Folerance cm3/1000 strokes Check tolerance	: 100 : 20.00 : + 1.00 : + 1.5 : + 3.5 : 4.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.04.96 Test oil : ISO 4113

Combination No. : 0 400 074 885

Injection pump

Pump designation : PES4M55C32ORS167 EP type number : 0 410 054 960

Governor

Governer design. : RSF400/2000M56-14 Governer no. : 0 420 021 271

Cust. part No. :

Customer-spec. information

Customer : DPICO

: 0M601-2.31 (Exp) Motor

Power KW : 58.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C Tolerance *C

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

: 1 688 901 111 assembly

Opening pressure

148.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 2.05 ÷ + 0.05 Tolerance mm Check

: +- 0.10 tolerance mm

Rack travel in mm : 21.00 : +- 1.00 Tolerance mm

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Start of delivery blocking

*NW after s.o.d. : 15.50 : + 0.20Tolerance

Check

tolerance °NW : +- 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 38.5

Tolerance

cm3/1000 strokes : + 0.5

Check tolerance cm3/1000s. : +- 1.5

Spreed Tolerance

cm3/1000 strokes : 2.5

Check tolerance cm3/1000s. : 3.0	Rated speed rpm : 1000
Rated speed rpm : 400	CRT mm max. : 1.45
Rack travel in mm: 5.00 Tolerance mm: + 0.10 Del. quantity	LOW IDLE
cm3/1000 strokes : 6.5	control lever
cm3/1000 strokes : + 0.5 Spreed Tolerance	position degree : 14.0 tolerance degree : + 2.0
cm3/1000 strokes : 1.0	Setting point w/out bumper spring Rated speed rpm : 400 rack travel mm : 5.00
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 5.00 SET IDLE AUXILIARY SPRING
IDLE STAGE	Rated speed rpm : 500 rack travel mm : 3.40 Tolerance mm : + 0.10
Rack travel in mm: 6.25 Tolerance mm: + 0.25	Load pick-up
<u> </u>	Rated speed rpm : 250
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : 12.50
Rated speed rpm : 1000	Rated speed rpm : 1000
Ref. pressure ALDA / ADA hPa : 1100 + Del. quantity +	CRT mm max. : 1.45
cm3/1000 strokes : 38.5 Tolerance cm3/1000 strokes : +- 0.5	rack travel mm : 5.00 Rated speed rpm : 400
Check tolerance cm3/1000s. : + 1.5	
Spreed Tolerance	TORQUE CONTROL
cm3/1000 strokes : 2.5	Rated speed rpm : 1000
Check tolerance cm3/1000s. : 3.0	rack travel mm : 12.15 Tolerance mm : + 0.05
RATED SPEED	Rated speed rpm : 1800 rack travel mm : 11.90 Tolerance mm : + 0.10
control lever position degree : 50.0	Rated speed rpm : 2000 rack travel mm : 11.80 Tolerance mm : +- 0.10
rack travel mm : 7.40 + Rated speed rpm : 2250 +	
+	ADJUSTMENT TEST ADA/ALDA
rack travel mm : 0.50 + Tolerance mm : + 0.50 + Rated speed rpm : 2550 +	SETTING
nated speed thin . 5300	Rated speed rpm : 1000 Ref. pressure
SET IDLE CONTROL LEVER POSITION	ALDA / ADA hPa : 940

rack travel mm	: -0.10	1
Tolerance mm	: ← 0.10	
MEASUREMENT		STARTING FUEL DELIVERY
PIEROONEPIER		Rated speed rpm : 100
Rated speed rpm	: 1000	+ rack travel mm : 21.60
Ref. pressure	; 900	+ Tolerance mm : +- 1.50
ALDA / ADA hPa rack travel mm	: -0.40	+ Del. quantity + cm3/1000 strokes : 59.0
Tolerance mm	: +- 0.10	Tolerance
, - 25. 41.105 11111	, ,,,,	+ cm3/1000 strokes : +- 4.0
Rated speed rpm	: 1000	+ Check tolerance
Ref. pressure	750	+ cm3/1000s. : + 5.0
ALDA / ADA hPa	: 750 -1.50	+ Spreed
rack travel mm Tolerance mm		+ Tolerance + cm3/1000 strokes : 6.0
locelance in	. 1 0.20	Check tolerance
		+ cm3/1000s. : 6.0
FUEL DELIVERY CHA	RACTERISTICS	‡
Ref. pressure ALDA / ADA hPa	: 1100	LOW IDLE
Rated speed rpm	1800	I LOW IDEE
Del. quantity	. 1000	Del. quantity
cm3/1000 strokes	: 40.8	- cm3/1000 strokes : 7.8
Tolerance		+ Check tolerance
cm3/1000 strokes		+ cm3/1000s. : + 2.3
Check tolerance		+ Spreed
cm3/1000S. Spreed	: +- 1.8	theck tolerance cm3/1000s. : 1.5
Tolerance		T (1113) 10005
cm3/1000 strokes	: 2.5	1
Check tolerance		
cm3/1000s.	: 3.0	†
Ref. pressure		F Grad : > 47.00
ALDA / ADA hPa	: 1100	+
Rated speed rpm	: 2000	+ Grad : < 44.50
Spreed		†
Del. quantity cm3/1000 strokes	: 41.0	SETTING PNEUMATIC FAST IDLE (ELA)
Tolerance	. 41.0	T SELLTING ENFORMATIC ENSULTINE CEFAN
cm3/1000 strokes	: + 1.0	1
Check tolerance		t control lever
cm3/1000s.	: ← 2.0	position degree : 14.0
Spreed		tolerance degree : + 2.0
Tolerance	: 2.5	+ Rated speed rpm : 425
cm3/1000 strokes Check tolerance		T vared sheed this . 463
cm3/1000s.	: 3.0	Rack travel in mm: 8.50
	- -	+ Tolerance mm : +- 0.80
		Del. quantity
		- + cm3/1000 strokes : 21.5
11701/ 751 5		
HIGH IDLE		+ Tolerance
		Tolerance cm3/1000 strokes : +- 3.5
HIGH IDLE Ref. pressure ALDA / ADA hPa	: 1100	+ Tolerance

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever

position degree : 14.0 tolerance degree : + 2.0

control lever

position degree : 50.0

ADJUSTMENT

control lever

position degree : 50.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 400

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.04.96 Test oil : ISO 4113

Combination No. : 3 400 075 922

Injection pump

Pump designation : PES5M55C32ORS168 EP type number : 0 410 055 978

Governor

Governer design. : RSF385/2000M56-15 Governer no. : 0 420 021 272

Cust. part No. :

Customer-spec. information Customer : DPICO Motor : OM602-2.9L

Power KW : 70.0

TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde

assembly : 1 688 901 111

Opening pressure

bar : 148.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.05
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 21.00 Tolerance mm : + 1.00

Firing order : 1-2-4-5-3

Phasing : 0-72-144-216-288

Start of delivery blocking

*NW after s.o.d. : 15.50 Tolerance : + 0.20 Check

CHECK

tolerance °NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.15
Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 38.5

Tolerance cm3/1000 strokes : + 0.5

Check tolerance cm3/1000s. : +- 1.5

Spreed Tolerance

cm3/1000 strokes : 2.5

Check tolerance cm3/1000s. : 3.0	- Rated speed rpm : 1000
Rated speed rpm : 385	- CRT mm max. : 1.45
Rack travel in mm: 5.70 Tolerance mm: + 0.10 Del. quantity	- LOW IDLE
cm3/1000 strokes : 9.0	- - control lever
cm3/1000 strokes : +- 0.5	position degree : 14.0 tolerance degree : +- 2.0
Tolerance cm3/1000 strokes: 1.0	- - Setting point w/out bumper spring - Rated speed rpm : 385
(B) SETTING OF INJECTION PUMP	rack travel mm : 5.70
WITH GOVERNOR	SET IDLE AUXILIARY SPRING
IDLE STAGE	Rated speed rpm : 500 rack travel mm : 3.70 Tolerance mm : +- 0.10
Rack travel in mm: 6.25 Tolerance mm: + 0.25	Load pick-up
	Rated speed rpm : 250
FULL LOAD DELIVERY AT FULL LOAD STOP	CRT mm min. : 12.50
Rated speed rpm : 1000 + Ref. pressure +	Rated speed rpm : 1000
ALDA / ADA hPa : 1100 + Del. quantity +	CRT mm max. : 1.45
cm3/1000 strokes : 38.5 Tolerance	rack travel mm : 5.70 Rated speed rpm : 385
cm3/1000 strokes : + 0.5 Check tolerance	
cm3/1000s. : + 1.5	TORQUE CONTROL
Tolerance + cm3/1000 strokes : 2.5 + Check tolerance + cm3/1000 strokes : 2.5	Rated speed rpm : 1000 rack travel mm : 12.15
cm3/1000s. : 3.0	Tolerance mm : + 0.05
RATED SPEED	Rated speed rpm : 1800 rack travel mm : 12.00 Tolerance mm : +- 0.10
control lever position degree : 50.0	Rated speed rpm : 2000 rack travel mm : 11.80 Tolerance mm : +- 0.10
rack travel mm : 7.40 Rated speed rpm : 2250	
rack travel mm : 0.50	ADJUSTMENT TEST ADA/ALDA
Tolerance mm : + 0.50 + Rated speed rpm : 2550 +	SETTING ACCOUNTS AND ACCOUNTS
	Rated speed rpm : 1000 Ref. pressure
SET IDLE CONTROL LEVER POSITION +	ALDA / ADA hPa : 940

rack travel mm : -0.10 Tolerance mm : +- 0.10	STARTING FUEL DELIVERY
MEASUREMENT Rated speed rpm : 1000 Ref. pressure ALDA / ADA hPa : 900 rack travel mm : -0.40 Tolerance mm : + 0.10	Rated speed rpm : 100 rack travel mm : 21.60 Tolerance mm : +- 1.50 Del. quantity cm3/1000 strokes : 59.0 Tolerance
Rated speed rpm : 1000 Ref. pressure ALDA / ADA hPa : 750 rack travel mm : -1.50 Tolerance mm : + 0.20	Rated speed rpm : 100 rack travel mm : 21.60 Tolerance mm : +- 1.50 Del. quantity cm3/1000 strokes : 59.0 Tolerance cm3/1000 strokes : +- 4.0 Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000 strokes : 6.0
FUEL DELIVERY CHARACTERISTICS	
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 1800 Del. quantity cm3/1000 strokes : 40.8 Tolerance cm3/1000 strokes : + 0.8 Check tolerance	LOW IDLE Del. quantity cm3/1000 strokes : 10.3 Check tolerance cm3/1000s. : +- 2.3 Spreed
cm3/1000s. : + 1.8 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 3.0	Check tolerance cm3/1000s. : 1.5
Ref. pressure ALDA / ADA hPa : 1100 Rated speed rpm : 2000 Spreed	Grad : > 47.00 Grad : < 44.50
Del. quantity cm3/1000 strokes : 41.0 Tolerance cm3/1000 strokes : +- 1.0	SETTING PNEUMATIC FAST IDLE (ELA)
Check tolerance cm3/1000s. : +- 2.0 Spreed	control lever position degree : 14.0 tolerance degree : + 2.0
Tolerance cm3/1000 strokes : 2.5 Check tolerance	Rated speed rpm : 400
cm3/1000s. : 3.0	Rack travel in mm: 8.60 Tolerance mm: + 0.80 Del. quantity cm3/1000 strokes: 21.5
HIGH IDLE Ref. pressure ALDA / ADA hPa : 1100	Tolerance + cm3/1000 strokes : + 3.5 + Check tolerance + cm3/1000s. : + 4.5
	Vacuum hPa : 400.0

SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever

position degree : 14.0 tolerance degree : +- 2.0

control lever

position degree : 50.0

ADJUSTMENT

control lever

position degree : 50.0

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 385

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 25.04.96 Test oil : ISO 4113

Combination No. : 0 400 864 095

Injection pump

Pump designation : PES4A95D410/3RS2789

EP type number : 0 410 894 995

Governor

Governer design. : RSV325...1175A5C2163

: -7L

Governer no. : 0 420 232 590

Cust. part No. :

Customer—spec. information Customer : KHD Motor : F4L913 Power KW : 55.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 3.05
Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1175

Rack travel in mm : 11.95
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 75.5

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance tom3/1000s. : 8.0	rack travel mm : 10.90
+	Rated speed rpm : 1220 Tolerance 1/min : +- 5
Rated speed rpm : 325	rack travel mm : 4.00
Rack travel in mm: 9.40 Tolerance mm: +- 0.10 Del. quantity	Rated speed rpm : 1280 Tolerance 1/min : +- 15
cm3/1000 strokes : 13.0	rack travel mm : 0.85 Tolerance mm : + 0.55
cm3/1000 strokes : +- 2.0 Check tolerance	Rated speed rpm : 1430
cm3/1000s. : + 4.5 Spreed	rack travel mm : 4.00 Rated speed rpm : 1295
Tolerance cm3/1000 strokes : 5.5	
Check tolerance cm3/1000s. : 9.0	LOW IDLE
+	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 69.0 tolerance degree : +- 4.0
	Setting point w/out bumper spring
GUIDE SLEEVE POSITION	
Rated speed rpm : 800	Rated speed rpm : 325 rack travel mm : 8.90
Rack travel in mm: 0.50 Tolerance mm: + 0.20	Testing:
1	Rated speed rpm : 325 rack travel mm : 9.40
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
Rated speed rpm : 1175	rack travel mm : 2.00
Aneroid pressure	Rated speed rpm : 500
hPa : - † Del. quantity +	Tolerance 1/min : +- 30
cm3/1000 strokes : 75.5	Rated speed rpm : 100
cm3/1000 strokes : + 1.0 + Check tolerance	CRT mm min. : > 19.50
cm3/1000s. : + 3.0 +	TOROUT CONTROL
Spreed + Tolerance +	TORQUE CONTROL
cm3/1000 strokes : 3.5 Check tolerance	Rated speed rpm : 1175 rack travel mm : 11.95
cm3/1000s. : 8.0	Tolerance mm : + 0.05
T T	Rated speed rpm : 800
ACMITROL LEVED	rack travel mm : 12.35
CONTROL LEVER	Tolerance mm : + 0.05
control lever	Rated speed rpm : 1025
position degree : 101.0 + tolerance degree : + 4.0 +	rack travel mm : 12.15 Tolerance mm : + 0.05
RATED SPEED	, 950; wi 100 initi
+	

End of test specification sheet

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 008 Rated speed rpm

Del. quantity

cm3/1000 strokes : 70.5

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance cm3/1000s. 4.0

BREAKAWAY

Rack travel in mm: 10.90 Rated speed rpm : 1220 Tolerance 1/min : +

STARTING FUEL DELIVERY

100 Rated speed rpm rack travel mm 20.25 Tolerance mm : + - 0.75Del. quantity

cm3/1000 strokes : 120.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s.: +- 12.5

LOW IDLE

325 Rated speed rpm 9.40 rack travel mm Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 5.5 Check tolerance cm3/1000s.9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.04.96 Test oil : ISO 4113

Combination No. : 0 402 046 872

Injection pump

Pump designation : PES6P120A320RS3337

EP type number : 0 412 026 770

Governor

Governer design. : RQV300...1250PA1246K

Governer no. : 0 421 815 480

Cust. part No. : CCEP 5155A 66-217

Customer-spec. information

Customer : RENAULT V.I. : MIDR 06-02-26 U4 Motor

Power KW : 111.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : Tolerance bar : + 0.1

Overflow quantity

: 135 min. L/h Tolerance l/h: \leftarrow 10.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

208.5 bar Tolerance bar : **←** 1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 4.10 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 11.00 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance 'NW : + 0.50

Start of delivery mark

"NW after s.o.d.: 0.08 Tolerance : + 0.50

Check

tolerance "NW : + 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

travel 19.50 Difference ° CS : 2.00

	+ guide sleeve
DACTO OFFTING	+ travel mm : 6.50 + Tolerance mm : + 0.25
BASIC SETTING	+ Toterance mm : +- 0.25
Rated speed rpm : 1250	Rated speed rpm : 530
	<pre># guide sleeve # travel mm : 3.77</pre>
Rack travel in mm : 10.60	travel mm : 3.77 Tolerance mm : + 0.25
Toleranse mm : + 0.05	+
No. 1	Rated speed rpm : 1580
Del. quantity cm3/1000 strokes : 140.0	<pre>+ guide sleeve + travel mm : 13.50</pre>
1107 1000 311 0Kes . 140.0	+ Tolerance mm : + 0.50
Tolerance	†
cm3/1000 strokes : +- 1.0	GUIDE SLEEVE POSITION
Check tolerance	+ 40102 322242 103111014
cm3/1000s. : +- 4.0	Rated speed rpm : 1400
Spreed	+ Rack travel in mm : 10.50
Spreed Tolerance	+ Tolerance mm : + 1.50
cm3/1000 strokes : 5.0	+
Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : 9.0	+ FOLL LOAD DELIVERY AT FOLL LOAD STOP
	Rated speed rpm : 1250
Rated speed rpm : 300	Aneroid pressure
Rack travel in mm : -5.80	+ hPa : - Del. quantity
Tolerance mm : +- 0.20	cm3/1000 strokes : 140.0
Del. quantity	+ Tolerance
cm3/1000 strokes : 29.0 Tolerance	+ cm3/1000 strokes : + 1.0 + Check tolerance
cm3/1000 strokes : +- 2.0	- cm3/1000s. : +- 4.0
Check tolerance	+ Spreed
cm3/1000s. : +- 5.0	Tolerance cm3/1000 strokes : 5.0
Spreed Tolerance	+ cm3/1000 strokes : 5.0 + Check tolerance
cm3/1000 strokes : 8.0	+ cm3/1000s. : 9.0
Check tolerance	+
cm3/1000s. : 12.0	İ
	CONTROL LEVER
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	+ control lever + position degree : 296.0
	tolerance degree : + 4.0
GUIDE SLEEVE TRAVEL	+
Rated speed rpm : 300	+ RATED SPEED
Rated speed rpm : 300 guide sleeve	Frack travel mm : -1.00
travel mm : 1.31	+ Rated speed rpm : 1325
Tolerance mm : \leftarrow 0.20	† Tolerance 1/min : + 5
Rated speed rpm : 1333	rack travel mm : -6.60
guide sleeve	+ Rated speed rpm : 1420
travel mm : 10.40	† Tolerance 1/min : + 15
Tolerance mm : +- 0.15	rack travel mm : -10.10
Rated speed rpm : 900	+ Tolerance mm : + 0.50
•	

1550 Rated speed rpm : LOW IDLE control lever position degree 242.0 4.0 tolerance degree : +-Testing: Rated speed rpm 300 rack travel mm -5.80 : +- 0.10 Tolerance mm Rated speed rpm 200 : < -4.80 CRT mm min. Rated speed rpm 380 TORQUE CONTROL Rated speed rom 1250 750 Rated speed rpm -1.60rack travel mm : + 0.10Tolerance mm Rated speed rpm 350 -2.40rack travel mm : : **←** 0.15 Tolerance mm START CUT-OUT 130 Rated speed rpm ; > Rated speed rpm : < 225 Check speed 1/min : > 110 Check speed 1/min : < 245 FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 750 Rated speed rpm Del. quantity cm3/1000 strokes : 102.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. : +-6.0

BREAKAWAY

Rack travel in mm: -1.00
Rated speed rpm: 1325
Tolerance 1/min: +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 108.0
Tolerance
cm3/1000 strokes : +- 15.0
Check tolerance
cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm

rack travel mm -5.80 Tolerance mm 0.20 Del. quantity 29.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. : +-5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

300

:

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 25.04.96 Test oil : ISO 4113

Combination No. : 0 402 066 706

Injection pump

Pump designation : PES6P12OA12ORS3358 EP type number : 0 412 026 784

Governor

Governer design. : RSV475...1250P2A613

: -1

Governer no. : 0 421 833 505

Cust. part No. : 3927357

Customer-spec. information

Customer : CDC

Motor : 6BTA-590 ELITE

Power KW : 138.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance *NW : + 0.50

Start of delivery blocking

*NW after s.o.d.: 7.75

Tolerance : \leftarrow 0.50

Check

tolerance *NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm: 11.30

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 140.0

	Tolerance
Tolerance	cm3/1000 strokes : 4.0
cm3/1000 strokes : +- 1.0 +	Check tolerance
Charles to Language	cm3/1000s. : 7.5
Check tolerance + 3.0 +	
tilis/10005. : += 5.0	
Spreed	CONTROL LEVER
Tolerance	
cm3/1000 strokes : 4.0	control lever
Almost a transfer of the second	position degree : 109.0
Check tolerance + cm3/1000s. : 7.5	tolerance degree : +- 4.0
T	RATED SPEED
Rated speed rpm : 475	TOTAL OF ELLO
-	rack travel mm : 10.30
Rack travel in mm: 5.40 +	Rated speed rpm : 1295
Tolerance mm : +- 0.30	Tolerance 1/min : +- 5
Del. quantity + cm3/1000 strokes : 21.0 +	rack travel mm : 4.00
cm3/1000 strokes : 21.0 +	rack travel mm : 4.00 Rated speed rpm : 1375
cm3/1000 strokes : + 2.0	Tolerance 1/min : +- 15
Check tolerance	
cm3/1000s. : +- 4.5	rack travel mm : 0.85
Spreed	Tolerance mm : + 0.55
Tolerance + cm3/1000 strokes : 6.0 +	Rated speed rpm : 1500
cm3/1000 strokes : 6.0 + Check tolerance +	
cm3/1000s. : 9.0	
+	LOW IDLE
†	
(B) SETTING OF INJECTION PUMP	annhast tavan
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever
	position degree : 84.0
	position degree : 84.0
GUIDE SLEEVE POSITION	position degree : 84.0 tolerance degree : + 4.0 Testing:
WITH GOVERNOR	position degree : 84.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 475
GUIDE SLEEVE POSITION Rated speed rpm : 800	position degree : 84.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 475 rack travel mm : 5.40
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50	position degree : 84.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 475
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50	position degree : 84.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 475 rack travel mm : 5.40 Tolerance mm : + 0.10 rack travel mm : 2.00
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	position degree : 84.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 475 rack travel mm : 5.40 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 570
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	position degree : 84.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 475 rack travel mm : 5.40 Tolerance mm : + 0.10 rack travel mm : 2.00
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring	position degree : 84.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 475 rack travel mm : 5.40 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 570 Tolerance 1/min : + 30
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	position degree : 84.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 475 rack travel mm : 5.40 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 570
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension	position degree : 84.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 475 rack travel mm : 5.40 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 570 Tolerance 1/min : + 30
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP	position degree : 84.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 475 rack travel mm : 5.40 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 570 Tolerance 1/min : + 30 SET IDLE AUXILIARY SPRING
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250	position degree : 84.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 475 rack travel mm : 5.40 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 570 Tolerance 1/min : + 30 SET IDLE AUXILIARY SPRING rack travel mm : 2.00
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure	position degree : 84.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 475 rack travel mm : 5.40 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 570 Tolerance 1/min : + 30 SET IDLE AUXILIARY SPRING
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : 1500	position degree : 84.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 475 rack travel mm : 5.40 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 570 Tolerance 1/min : + 30 SET IDLE AUXILIARY SPRING rack travel mm : 2.00 TORQUE CONTROL
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : 1500 Del. quantity	position degree : 84.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 475 rack travel mm : 5.40 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 570 Tolerance 1/min : + 30 SET IDLE AUXILIARY SPRING rack travel mm : 2.00 TORQUE CONTROL Rated speed rpm : 1250
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : 1500	position degree : 84.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 475 rack travel mm : 5.40 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 570 Tolerance 1/min : + 30 SET IDLE AUXILIARY SPRING rack travel mm : 2.00 TORQUE CONTROL
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 140.0 Tolerance cm3/1000 strokes : + 1.0	position degree : 84.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 475 rack travel mm : 5.40 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 570 Tolerance 1/min : + 30 SET IDLE AUXILIARY SPRING rack travel mm : 2.00 TORQUE CONTROL Rated speed rpm : 1250 rack travel mm : 11.30 Tolerance mm : + 0.05
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 140.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	position degree : 84.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 475 rack travel mm : 5.40 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 570 Tolerance 1/min : + 30 SET IDLE AUXILIARY SPRING rack travel mm : 2.00 TORQUE CONTROL Rated speed rpm : 1250 rack travel mm : 11.30 Tolerance mm : + 0.05 Rated speed rpm : 750
GUIDE SLEEVE POSITION Rated speed rpm : 800 Rack travel in mm : 0.50 Tolerance mm : + 0.20 governor spring pre-tension click setting x : 4.75 FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250 Aneroid pressure hPa : 1500 Del. quantity cm3/1000 strokes : 140.0 Tolerance cm3/1000 strokes : + 1.0	position degree : 84.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 475 rack travel mm : 5.40 Tolerance mm : + 0.10 rack travel mm : 2.00 Rated speed rpm : 570 Tolerance 1/min : + 30 SET IDLE AUXILIARY SPRING rack travel mm : 2.00 TORQUE CONTROL Rated speed rpm : 1250 rack travel mm : 11.30 Tolerance mm : + 0.05

ANEROID/ALTITUDE COMPENSATOR TEST

SETTING

Rated speed rpm	;	500
Pressure hPa	;	1500
rack travel mm	:	11.30
Tolerance mm		+- 0.05

MEASUREMENT

Pressure hPa	:	-
Rated speed rpm	:	500
rack travel mm	:	9.00
Tolerance mm	; +	- 0.20

Rated speed rpm : 500

Pressure hPa	:		900
rack travel mm	:		10.75
Tolerance mm	:	+-	0.20

Pressure hPa	:	560
rack travel mm	:	9.55
Tolerance mm	: -	← 0.0 5

FUEL DELIVERY CHARACTERISTICS

	Ane	roid	pre	ssure
--	-----	------	-----	-------

Mile of a pressure		
hPa	:	1500
Rated speed rpm	:	750
Del. quantity		
cm3/1000 strokes	:	157.0
Tolerance		
cm3/1000 strokes	:	+- 3.0
Check tolerance		
cm3/1000S.	:	← 6.0
Spreed		
Tolerance		
cm3/1000 strokes	•	8.0

Ameroid pressure

Check tolerance cm3/1000s.

Anerola pressure			
hPa	:		-
Rated speed rpm	:		500
Del. quantity			
cm3/1000 strokes	:		97.0
Tolerance			
cm3/1000 strokes	:	+	2.0
Check tolerance			
cm3/1000s.	:	+-	4.0

: 12.0

BREAKAWAY

Rack travel in mm	:	10.30
Rated speed rpm	:	1295
Tolerance 1/min	•	+- 5

STARTING FUEL DELIVERY

Rated speed rpm rack travel mm Tolerance mm	:	+-	100 20.25 0.75
Del. quantity cm3/1000 strokes	•		165.0
Tolerance cm3/1000 strokes	:	+-	20.0
Check tolerance cm3/1000s.	:	+	25.0

LOW IDLE

Rated speed rpm rack travel mm Tolerance mm	:	475 5.40 0.30
Del. quantity	• • •	
cm3/1000 strokes Tolerance	:	21.0
cm3/1000 strokes	; +-	2.0
Check tolerance cm3/1000S. Spreed	: +-	4.5
Tolerance cm3/1000 strokes Check tolerance	:	6.0
cm3/1000s.	:	9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.03.96 Test oil : ISO 4113

Combination No. : 0 402 646 756

Injection pump

Pump designation : PE6P120A320LS7834

: -10

: 0 412 626 853 EP type number

Governor

Governer design. : RQV300...1050PA1168

Governer no. : 0 421 814 138

Cust. part No. : 0260743902

Customer-spec. information : MB-NFZ Customer : 0M401 LA Motor Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 : +--Tolerance °C 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar 0.1

Tolerance l/h: + 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values _____

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 20.50 Tolerance mm : +- 0.50

Firing order : 6-3-5-2-4-

: 1-

: 0-60-120-180-240 Phasing

: -300-360

: + - 0.30Tolerance

Check

tolerance °NW : + 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

550 Rated speed rpm :

Rack travel in mm : 14.80

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 230.0

Tolerance cm3/1000 strokes : +-			
		Rated speed rpm guide sleeve	: 1183
Check tolerance cm3/1000s. : +-	-	travel mm	10.00 +- 0.25
Spreed Tolerance cm3/1000 strokes :	5.0	guide sleeve travel mm	1280 11.50 + 0.50
Check tolerance cm3/1000s.	9.0	TOCETATICE TIME	. + 0.50
		GUIDE SLEEVE POSIT	ION
Rated speed rpm : 30	+	Rated speed rpm	1145
Rack travel in mm : 6 Tolerance mm : + 0 Del. quantity		Rack travel in mm : Tolerance mm	13.80 + 1.30
	3.0	Total alice line	
cm3/1000 strokes : +- Check tolerance	3.0	FULL LOAD DELIVERY	AT FULL LOAD STOP
Spreed	+ ,	Rated speed rpm : Aneroid pressure	
Tolerance cm3/1000 strokes :	T	hPa : Del. quantity	1000
Check tolerance	+	cm3/1000 strokes :	230.0
cm3/1000s. : 10	+ ,		+- 1.0
(B) SETTING OF INJECTION (WITH GOVERNOR	PUMP + :	Check tolerance cm3/1000s. : Spreed Tolerance	+- 4.0
GUIDE SLEEVE TRAVEL		cm3/1000 strokes : Check tolerance	
Rated speed rpm : 30		cm3/1000s. :	9.0
Rated speed rpm : 30	Ī		
The second secon			
guide sleeve travel mm : 1	.29		
guide sleeve		CONTROL LEVER	
guide sleeve travel mm : 1 Tolerance mm : + 0 Rated speed rpm : 1108	.20	control lever	424.0
guide sleeve travel mm : 1 Tolerance mm : + 0 Rated speed rpm : 1108 guide sleeve	.20	control lever cosition degree :	
guide sleeve travel mm : 1 Tolerance mm : + 0 Rated speed rpm : 1108 guide sleeve	.53 .15	control lever cosition degree : tolerance degree :	
guide sleeve travel mm : 1 Tolerance mm : + 0 Rated speed rpm : 1100 guide sleeve travel mm : 8 Tolerance mm : + 0 Rated speed rpm : 550	.20 + 6 8 - 6 .53 - 15 8 - 7	control lever cosition degree :	
guide sleeve travel mm : 1 Tolerance mm : + 0 Rated speed rpm : 1100 guide sleeve travel mm : 8. Tolerance mm : + 0. Rated speed rpm : 550 guide sleeve travel mm : 4.	.20 + 6 8 - 6 .53 - 1 8 - 7 8 - 7	control lever position degree : tolerance degree : RATED SPEED rack travel mm : Rated speed rpm :	+- 4.0 13.80 1095
guide sleeve travel mm : 1 Tolerance mm : + 0 Rated speed rpm : 1108 guide sleeve travel mm : 8 Tolerance mm : + 0 Rated speed rpm : 558 guide sleeve	.20 + 6 8 - 6 .53 - 1 8 - 7 8 - 7	control lever position degree : tolerance degree : RATED SPEED rack travel mm :	+- 4.0 13.80 1095 _
guide sleeve travel mm : 1 Tolerance mm : + 0 Rated speed rpm : 1108 guide sleeve travel mm : 8 Tolerance mm : + 0 Rated speed rpm : 558 guide sleeve travel mm : 4 Tolerance mm : + 0 Rated speed rpm : 608	.20	control lever position degree : tolerance degree : RATED SPEED rack travel mm : Rated speed rpm : Tolerance 1/min : rack travel mm :	+ 4.0 13.80 1095 + 5 4.00
guide sleeve travel mm : 1 Tolerance mm : + 0 Rated speed rpm : 1108 guide sleeve travel mm : 8 Tolerance mm : + 0 Rated speed rpm : 558 guide sleeve travel mm : 4 Tolerance mm : + 0 Rated speed rpm : 608 guide sleeve guide sleeve : 608 guide sleeve	.20 8 .53 .15 8 .53 .25	control lever position degree : tolerance degree : RATED SPEED rack travel mm : Rated speed rpm : Tolerance 1/min : Rated speed rpm :	+ 4.0 13.80 1095 + 5 4.00 1190
guide sleeve travel mm : 1 Tolerance mm : + 0 Rated speed rpm : 1108 guide sleeve travel mm : 8 Tolerance mm : + 0 Rated speed rpm : 558 guide sleeve travel mm : 4 Tolerance mm : + 0 Rated speed rpm : 608 guide sleeve guide sleeve : 608 guide sleeve	.20 8 .53 .15 8 .53 .25	control lever position degree : tolerance degree : RATED SPEED rack travel mm : Rated speed rpm : Tolerance 1/min : Rated speed rpm : Rated speed rpm : Rolerance 1/min :	+ 4.0 13.80 1095 + 5 4.00 1190 + 15
guide sleeve travel mm : 1 Tolerance mm : + 0 Rated speed rpm : 1100 guide sleeve travel mm : 8 Tolerance mm : + 0 Rated speed rpm : 558 guide sleeve travel mm : 4 Tolerance mm : + 0 Rated speed rpm : 608 guide sleeve travel mm : 5. Tolerance mm : + 0 Rated speed rpm : 508 guide sleeve travel mm : 5. Tolerance mm : + 0. Rated speed rpm : 608 guide sleeve travel mm : 5. Tolerance mm : + 0.	.20 8 .53 .15 8 .53 .25 8	control lever position degree : tolerance degree : RATED SPEED rack travel mm : Rated speed rpm : Tolerance 1/min : Rated speed rpm : Tolerance 1/min : Tolerance 1/min :	+ 4.0 13.80 1095 + 5 4.00 1190 + 15 - 0.75 + 0.75
guide sleeve travel mm : 1 Tolerance mm : + 0 Rated speed rpm : 1100 guide sleeve travel mm : 8 Tolerance mm : + 0 Rated speed rpm : 558 guide sleeve travel mm : 4 Tolerance mm : + 0 Rated speed rpm : 608 guide sleeve travel mm : 55 Rated speed rpm : 608 guide sleeve travel mm : 50 Rated speed rpm : 50 Rated speed rpm : 50 Rated speed rpm : 608 guide sleeve travel mm : 50 Rated speed rpm : 820 guide sleeve travel mm : 6.	.20 8 .53 .15 8 .53 .25 8	control lever position degree : tolerance degree : RATED SPEED rack travel mm : Rated speed rpm : Tolerance 1/min : Rated speed rpm : Rated speed rpm : Rated speed rpm : Rated speed rpm : Tolerance 1/min : Tolerance 1/min :	+ 4.0 13.80 1095 + 5 4.00 1190 + 15 0.75 + 0.75

LOW IDLE		Pressure hPa : 600 rack travel mm : 14.15 Tolerance mm : + 0.20
control lever position degree tolerance degree	: 60.0 : +- 4.0	START CUT-OUT
Testing:		Rated speed rpm : > 100 Rated speed rpm : < 220
Rated speed rpm rack travel mm Tolerance mm	: 300 : 4.50 : + 0.10	Check
Rated speed rpm	: 200	+ speed 1/min : < 240
CRT mm min.	: > 6.30	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 350	Aneroid pressure hPa : 1000 - Rated speed rpm : 1050
TORQUE CONTROL		Del. quantity cm3/1000 strokes : 229.0
Rated speed rpm rack travel mm Tolerance mm	: 550 : 14.80 : +- 0.05	Tolerance cm3/1000 strokes : + 3.0 Check tolerance
Rated speed rpm	: 1050	cm3/1000s. : +- 6.0 Spreed
rack travel mm Tolerance mm	: 14.80 : + 0.10	+ Tolerance + cm3/1000 strokes : 8.0 + Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 700 : 14.80	- cm3/1000s. : 12.0
Tolerance mm	: +- 0.10	+ Aneroid pressure + hPa : - + Rated speed rpm : 500
ANEROID/ALTITUDE COMPENSATOR TEST		+ Del. quantity + cm3/1000 strokes : 129.0
SETTING		<pre>+ Tolerance + cm3/1000 strokes : + 1.0 + Check tolerance</pre>
Rated speed rpm Pressure hPa		- cm3/1000s. : +- 4.0 - Spreed - Tolerance
rack travel mm Tolerance mm		cm3/1000 strokes : 8.0 Check tolerance
MEASUREMENT		+ cm3/1000s. : 12.0
Pressure hPa Rated speed rpm rack travel mm	: - : 400 : 10.50 : +- 0.15	BREAKAWAY Rack travel in mm: 13.80
Tolerance mm Rated speed rpm	: 400	Rated speed rpm : 1095 Tolerance 1/min : +- 5
Pressure hPa rack travel mm Tolerance mm	: 400 : 12.90 : + 0.20	STARTING FUEL DELIVERY
IOSEI GITUE HAK		1 OTHER TOPE SEETAFILE

Rated speed rpm Del. quantity	:	100
cm3/1000 strokes Tolerance	:	210.0
cm3/1000 strokes	: +	- 15.0
Check tolerance cm3/1000s.	: +	- 19.0

LOW IDLE

Rated speed rpm rack travel mm	:	300 6.30
Tolerance mm	: +	- 0.30
Del. quantity		
cm3/1000 strokes	:	13.0
Tolerance		
cm3/1000 strokes	: +	- 3.0
Check tolerance		
cm3/1000s.	: +	- 6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance		
cm3/1000s.	:	10.0